

MINNESOTA DEPARTMENT OF  
**COMMERCE**  
WEIGHTS & MEASURES DIVISION



14305 SOUTHCROSS DRIVE #150  
BURNSVILLE, MN 55306-7008  
MN.GOV/COMMERCE/  
651.539.1555 FAX 651.539.1553  
AN EQUAL OPPORTUNITY EMPLOYER

Receipt Date: March 23, 2017  
Cal. Date: March 23, 2017  
Report Date: March 23, 2017

Report No.: 337469  
Set Serial No.: None  
Barcode: 202268

## Calibration Certificate

BISON FOOD EQUIPMENT SERVICE INC.  
17409 BESEAU LAKE ROAD  
LAKE PARK, MN 56554  
Contact: Dale Bohner  
Phone: 701-261-2102  
PO Number: NONE  
Procedure: NIST SOP 8  
Technician ID: 11

Item(s) Submitted: Cast Handle Weights  
Manufacturer: Troemner  
Weight Type: II  
Equipment ID: None  
Condition: Fair\*  
Temperature: 21.1 °C  
Pressure: 738.8 mmHg  
Relative Humidity: 49.8 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
25 lb		609	609	F	F	2.01	52
25 lb		129	129	F	F	2.01	52
25 lb		769	769	F	F	2.01	52
25 lb		869	869	F	F	2.01	52
50 lb		2140	2140	F	F	2.01	56
50 lb		580	580	F	F	2.01	56
50 lb		1790	1790	F	F	2.01	56
50 lb		1500	1500	F	F	2.01	56
50 lb		650	650	F	F	2.01	56
50 lb		2170	2170	F	F	2.01	56

\* Weights must be cleaned and repainted prior to next calibration.

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/cm<sup>3</sup> density and an air density of 1.2 mg/cm<sup>3</sup> at 20 °C. 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 NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 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 items identified in this report only.

Pete Whebbe

Metrologist

Reviewed by:

Mark Nicollet

Quality Manager

Page 1 of 1

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Calibration Report



Receipt Date: March 23, 2017  
Cal. Date: March 23, 2017  
Report Date: March 23, 2017

Report No.: 337468  
Set Serial No.: 14580/1-6  
Barcode: 202472

## Calibration Certificate

BISON FOOD EQUIPMENT SERVICE INC.  
17409 BESEAU LAKE ROAD  
LAKE PARK, MN 56554  
Contact: Dale Bohner  
Phone: 701-261-2102  
PO Number: NONE  
Procedure: NIST SOP 8  
Technician ID: 11

Item(s) Submitted: Satin Stainless Cylinder Weights  
Manufacturer: Troemner  
Weight Type: II  
Equipment ID: None  
Condition: Good  
Temperature: 18.8 °C  
Pressure: 738.1 mmHg  
Relative Humidity: 53.1 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
5 lb	1	119.4	119.4	F	F	2.01	6.0
5 lb	2	121.4	121.4	F	F	2.01	6.0
5 lb	3	105.4	105.4	F	F	2.01	6.0
5 lb	4	136.4	136.4	F	F	2.01	6.0
5 lb	5	111.4	111.4	F	F	2.01	6.0
5 lb	6	100.4	100.4	F	F	2.01	6.0

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/cm<sup>3</sup> density and an air density of 1.2 mg/cm<sup>3</sup> at 20 °C. 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 NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 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 items identified in this report only.

Pete Whebbe

Metrologist

Reviewed by:  
Mark Nicollet

Quality Manager

MINNESOTA DEPARTMENT OF  
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Receipt Date: March 23, 2017  
 Cal. Date: March 23, 2017  
 Report Date: March 23, 2017

Report No.: 337467  
 Set Serial No.: None  
 Barcode: 201022

## Calibration Certificate

BISON FOOD EQUIPMENT SERVICE INC.  
 17409 BESEAU LAKE ROAD  
 LAKE PARK, MN 56554  
 Contact: Dale Bohner  
 Phone: 701-261-2102  
 PO Number: NONE  
 Procedure: NIST SOP 8  
 Technician ID: 11

Item(s) Submitted: 30 lb Weight Kit  
 Manufacturer: Rice Lake  
 Weight Type: I & II  
 Equipment ID: None  
 Condition: Good  
 Temperature: 18.7 °C  
 Pressure: 737.9 mmHg  
 Relative Humidity: 53.1 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
5 lb		58.4	58.4	F	F	2.01	6.0
5 lb		67.4	67.4	F	F	2.01	6.0
5 lb		49.4	49.4	F	F	2.01	6.0
5 lb		45.4	45.4	F	F	2.01	6.0
5 lb		116.4	116.4	F	F	2.01	6.0
1 lb		20.9	20.9	F	F	2.01	1.6
1 lb		28.1	28.1	F	F	2.01	1.6
1 lb		20.3	20.3	F	F	2.01	1.6
1 lb		20.4	20.4	F	F	2.01	1.6
1 lb		27.3	27.3	F	F	2.01	1.6
8 oz		19.9	19.9	F	F	2.01	1.3
0.2 lb		6.39	6.39	F	F	2.02	0.22
0.2 lb		4.78	4.78	F	F	2.02	0.22
0.1 lb		2.02	2.02	F	F	2.02	0.14
0.05 lb		0.39	0.39	F	F	2.02	0.11
0.02 lb		0.618	0.618	F	F	2.02	0.066
0.02 lb		0.765	0.765	F	F	2.02	0.066
0.01 lb		0.156	0.156	F	F	2.02	0.052

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Continued,

## Calibration Certificate

BISON FOOD EQUIPMENT SERVICE INC.  
17409 BESEAU LAKE ROAD  
LAKE PARK, MN 56554  
Contact: Dale Bohner  
Phone: 701-261-2102  
PO Number: NONE  
Procedure: NIST SOP 8  
Technician ID: 11

Item(s) Submitted: 30 lb Weight Kit  
Manufacturer: Rice Lake  
Weight Type: I & II  
Equipment ID: None  
Condition: Good  
Temperature: 18.7 °C  
Pressure: 737.9 mmHg  
Relative Humidity: 53.1 %

Nominal Value	Serial No.	CM Correction (mg)		NIST HB105-1 Class		k	U (mg)
		As Found	As Left	As Found	As Left		
0.005 lb		0.358	0.358	F	F	2.02	0.073
0.002 lb		0.246	0.246	F	F	2.02	0.047
0.002 lb		0.070	0.070	F	F	2.02	0.047
0.001 lb		-0.102	-0.102	F	F	2.02	0.041

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/cm<sup>3</sup> density and an air density of 1.2 mg/cm<sup>3</sup> at 20 °C. 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 NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 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 items identified in this report only.

Pete Whebbe

Metrologist

Reviewed by:  
Mark Nicollet

Quality Manager

United States Department of Commerce  
National Institute of Standards and Technology

Certificate of Metrological Traceability For:

# Minnesota

This laboratory has demonstrated evidence of an unbroken chain of metrological traceability of its standards to the international system of units (SI), documented measurement uncertainties, uses documented measurement procedures, successfully completed training and proficiency tests, documented calibration intervals, submitted a quality management system, and demonstrated suitable measurement assurance for the Scope listed on this certificate.


The Office of Weights and Measures Program assesses laboratories to NIST Handbook 143 - Program Handbook for State Weights and Measures Laboratories and ISO/IEC 17025:2005.

### Scope

<b>Mass Echelon I</b> 10 kg to 1 mg	<b>Mass Echelon III</b> 50 kg to 1 mg 5000 lb to 0.001 lb 4 oz to 0.03125 oz	<b>Volume Gravimetric, I</b> 20 L to 10 ml 100 gal to 0.25 qt
<b>Mass Echelon II</b> 50 kg to 1 mg 1000 lb to 0.001 lb 4 oz to 0.03125 oz	<b>Weight Carts</b> 10 000 lb to 2000 lb	<b>Volume Transfer, II</b> 1500 gal to 5 gal 100 gal to 25 gal LPG
	<b>Wheel Load Weighers</b> 20 000 lb to 2000 lb	
	<b>Railroad Test Cars</b> 110 000 lb to 80 000 lb	



2017

  
Georgia L. Harris, Acting Chief  
NIST Office of Weights and Measures

Effective Dates: 2017-01-01 to 2017-12-31

Amended: 2016-12-31

Scope modified for 2017.