



# SOUTHWEST RESEARCH INSTITUTE®

6220 Culebra Road, P.O. Drawer 28510  
Institute Quality Systems  
Institute Calibration Laboratory  
Phone: 210-522-5215 Fax 210-522-4834



Calibration Laboratory  
Certificate #0972-01

## Certificate of Calibration

**Cost Center / Customer:** DIV20 / DON BANNON

**Mail Stop:** B57

**Manufacturer/Model:** SARTORIUS / ME215S

**Description:** BALANCE

**Serial Number:** 12809099

**Asset Number:** 008780

**Procedure:** BALANCES & SCALES - 1 DEC 06

**Work Order:** 303101257

**Date Issued:** 2-May-2011

**Date Calibrated:** 2-May-2011

**\* Date Due :** 2-Nov-2011

**\*\* Results:** FOUND-LEFT

**Temperature:** 73.4 °F

**Humidity:** 45 %RH

**Barometer:** 14.36 psia

This certificate documents traceability to the National Institute of Standards and Technology (NIST) and the International System of Units (SI). The Laboratory quality system conforms to ISO/IEC 17025, 2005, ANSI/NC SL Z540-1-1994 and relevant requirements of the ISO 9000-2000 standard. This certificate shall not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. This certificate shall not be used to claim product endorsement by Southwest Research Institute, American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government. Results of this calibration relate only to the instrument described above at the time of calibration and does not imply any long term stability of the instrument.

\*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. \*\*Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair was not performed, As-found - data is before unit is adjusted and/or repaired, As-left - data is after adjusted and/or repaired was performed. The customer has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance.

Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of  $k=2$ .

**Remarks:** None

### Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
001708	RICE LAKE	10 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001709	RICE LAKE	20 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001710	RICE LAKE	20 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001711	RICE LAKE	50 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001712	RICE LAKE	100 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001713	RICE LAKE	200 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011

Walt Hill

Laboratory Manager

Carlos Mendoza

Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303101257	Mfr:	Sartorius	Technician:	com
Asset No:	008780	Model:	ME215S	Type Data:	Found-left
Serial No:	12809099	Type:	Balance	Cal Date:	02-May-11
Remarks:					

Function/Range	Applied	TI Reading	Difference	± Limit	Result	% Limit
Corner Load	grams	grams	grams	grams		
Reference	100					
Front		100.00000	0.00000	0.00020	Pass	0%
Rear		100.00000	0.00000		Pass	0%
Left		100.00000	0.00000		Pass	0%
Right		100.00000	0.00000		Pass	0%
Repeatability						
1	100	99.99977				
2		99.99980				
3		99.99979				
4		99.99981				
5		99.99982				
6		99.99978				
7		99.99979				
8		99.99983				
9		99.99979				
10		99.99979				
Std Deviation		0.000018		0.000050	Pass	36%

Function/Range	Applied	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Direct Weighing	grams	grams	grams	grams	grams		
	0.00000	0.00000	0.00000	0.00020	0.00007	Pass	0%
	19.99997	19.99994	-0.00003			Pass	15%
	39.99995	39.99993	-0.00002			Pass	10%
	59.99991	59.99985	-0.00006			Pass	30%
	79.99988	79.99982	-0.00006			Pass	30%
	99.99992	99.99982	-0.00010			Pass	50%
	119.99989	119.99979	-0.00010			Pass	50%
	139.99987	139.99980	-0.00007			Pass	35%
	159.99983	159.99970	-0.00013			Pass	65%
	179.99980	179.99969	-0.00011			Pass	55%
	200.00017	200.00018	0.00001			Pass	5%

END OF REPORT