



# 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:** B51

**Manufacturer/Model:** SARTORIUS / ME215S

**Description:** BALANCE

**Serial Number:** 12809099

**Asset Number:** 008780

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

**Work Order:** 303091241

**Date Issued:** 10-Nov-2009

**Date Calibrated:** 10-Nov-2009

**\* Date Due :** 10-May-2010

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

**Temperature:** 70.0 °F

**Humidity:** 69 %RH

**Barometer:** 14.44 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/NCSL 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	4-Aug-2009	4-Aug-2010
001709	RICE LAKE	20 G	WEIGHT, CLASS 1	4-Aug-2009	4-Aug-2010
001710	RICE LAKE	20 G	WEIGHT, CLASS 1	4-Aug-2009	4-Aug-2010
001711	RICE LAKE	50 G	WEIGHT, CLASS 1	4-Aug-2009	4-Aug-2010
001712	RICE LAKE	100 G	WEIGHT, CLASS 1	4-Aug-2009	4-Aug-2010
001714	RICE LAKE	200 G	WEIGHT, CLASS S	4-Aug-2009	4-Aug-2010

  
Walt Hill

Laboratory Manager

  
Carlos Mendoza

Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303091241	Mfr:	Sartorius	Technician:	com
Asset No:	008780	Model:	ME215S	Type Data:	Found-left
Serial No:	12809099	Type:	Balance	Cal Date:	10-Nov-09
Remarks:					

Function/Range	Applied	TI Reading	Difference	± Limit	Result	% Limit
Corner Load	grams	grams	grams	grams		
Reference	100					
Front		99.99996	-0.00004	0.00020	Pass	20%
Rear		100.00006	0.00006		Pass	30%
Left		100.00000	0.00000		Pass	0%
Right		100.00004	0.00004		Pass	20%
Repeatability						
1	100	100.00003				
2		100.00000				
3		100.00000				
4		100.00003				
5		100.00004				
6		100.00004				
7		100.00002				
8		100.00003				
9		100.00004				
10		100.00002				
Std Deviation		0.000015		0.000050	Pass	30%

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	0.00009	Pass	0%
	20.00000	20.00001	0.00001			Pass	5%
	40.00002	40.00002	0.00000			Pass	0%
	59.99994	59.99992	-0.00002			Pass	10%
	79.99994	79.99992	-0.00002			Pass	10%
	100.00008	100.00000	-0.00008			Pass	40%
	120.00008	119.99999	-0.00009			Pass	45%
	140.00010	139.99998	-0.00012			Pass	60%
	160.00002	159.99993	-0.00009			Pass	45%
	180.00002	179.99996	-0.00006			Pass	30%
	200.00016	200.00016	0.00000			Pass	0%

END OF REPORT