



SOUTHWEST RESEARCH INSTITUTE®

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Certificate of Calibration

0972-01

Submitted By: DIV20
Address: B57
Contact: DON BANNON
Manufacturer Model: SARTORIUS ME215S
Description: BALANCE
Serial No: 12809099
Asset No: 008780
Procedure: BALANCES & SCALES, DEC/04

Work Order: 303066740
Date Issued: Nov 14, 2005
Calibration Date: Nov 14, 2005
***Calibration Due:** May 12, 2006
Calibration Location: B57
Environment: Temp. 72.0°F Hum. 61 %RH
****Data Type:** FOUND-LEFT

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, 1999, 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. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility for determination of in-/out-of-tolerance or compliance/noncompliance. See Remarks or attached Measurement Report with the same Work Order number for data.

Reported uncertainty calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM) and represents an expanded uncertainty with a coverage factor of k=2 to approximate a 95% confidence level.

Remarks: None

Standards Used

Asset No.	Serial No.	Manufacturer	Model	Description	Cal Due
001708	C863	RICE LAKE	10G	WEIGHT, CLASS S	Jul 06, 06
001709	C864	RICE LAKE	20G	WEIGHT, CLASS S	Jul 06, 06
001710	C865	RICE LAKE	20G	WEIGHT, CLASS S	Jul 06, 06
001711	C866	RICE LAKE	50G	WEIGHT, CLASS S	Jul 06, 06
001712	C867	RICE LAKE	100G	WEIGHT, CLASS S	Jul 06, 06
001713	C868	RICE LAKE	200G	WEIGHT, CLASS S	Jul 06, 06
005566	B0113L004	MERIAN	A0030P	PRESSURE GAUGE, ABSOLUTE	Apr 10, 06
007290	T4830007	VAISALA	HM34F	HUMIDTY/ TEMPERATURE METER	Apr 11, 06

Reviewed by: blt (✓) jrg () pwc () wgh ()
Metrology Technician

Measurements by: Jude Morin
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303066740	Manufacturer: Sartorius	Technician: jim
Asset Number:	008780	Model: ME215S	
Serial Number:	12809099	Type: Balance	Cal Date: 14-Nov-05
Remarks:	Manufacturer does not provide corner load specifications. Corner load readings are without pass or fail indications.		
Ambient Conditions	72 ° F	61 % RH	14.24 PSIA

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Corner Load	grams	grams	grams	grams	grams	Result
Reference	100.00000	99.99990				
Front	99.99990	99.99992	0.00002		0.000041	
Rear	99.99990	99.99991	0.00001		0.000041	
Left	99.99990	99.99993	0.00003		0.000041	
Right	99.99990	100.00003	0.00013		0.000041	
Repeatability						
1	100.00000	99.99994				
2	100.00000	99.99997				
3	100.00000	99.99996				
4	100.00000	99.99997				
5	100.00000	99.99997				
6	100.00000	99.99996				
7	100.00000	99.99996				
8	100.00000	99.99997				
9	100.00000	99.99996				
10	100.00000	99.99997				
Std Deviation		0.000009		0.000030		Pass
Linearity	0.00000	0.00000	0.00000	0.00010	0.000067	Pass
	20.00000	20.00000	0.00000	0.00010	0.000067	Pass
	40.00000	40.00002	0.00002	0.00010	0.000067	Pass
	60.00000	60.00005	0.00005	0.00010	0.000067	Pass
	80.00000	80.00003	0.00003	0.00010	0.000067	Pass
	100.00000	100.00005	0.00005	0.00010	0.000067	Pass
	120.00000	120.00009	0.00009	0.00010	0.000067	Pass
	140.00000	140.00007	0.00007	0.00010	0.000067	Pass
	160.00000	160.00007	0.00007	0.00010	0.000067	Pass
	180.00000	180.00009	0.00009	0.00010	0.000067	Pass
	200.00000	200.00007	0.00007	0.00010	0.000067	Pass

End of Report