



SOUTHWEST RESEARCH INSTITUTE®

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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 / 3808-MP8

Description: BALANCE

Serial Number: 39030006

Asset Number: 001444

Procedure: BALANCES & SCALES - 1 DEC 06

Work Order: 303091237

Date Issued: 11-Nov-2009

Date Calibrated: 11-Nov-2009

*** Date Due :** 11-May-2010

**** Results:** FOUND-LEFT

Temperature: 73.0 °F

Humidity: 59 %RH

Barometer: 14.41 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>
001716	RICE LAKE	1 KG	WEIGHT, CLASS 1	5-Jun-2009	5-Jun-2010
001717	RICE LAKE	2 KG	WEIGHT, CLASS 1	5-Jun-2009	5-Jun-2010
001718	RICE LAKE	2 KG	WEIGHT, CLASS 1	5-Jun-2009	5-Jun-2010
001719	RICE LAKE	5 KG	WEIGHT, CLASS 1	5-Jun-2009	5-Jun-2010
002060	RICE LAKE	5 KG	WEIGHT, CLASS 1	9-Jun-2009	9-Jun-2010
002061	RICE LAKE	5 KG	WEIGHT, CLASS 1	9-Jun-2009	9-Jun-2010
002062	RICE LAKE	10 KG	WEIGHT, CLASS 1	9-Jun-2009	9-Jun-2010

Walt Hill

Laboratory Manager

Carlos Mendoza

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303091237	Mfr:	Sartorius	Technician:	com
Asset No:	001444	Model:	3808-MP8	Type Data:	Found-left
Serial No:	39030006	Type:	Balance	Cal Date:	11-Nov-09

Remarks:

Function/Range	Applied	TI Reading	Difference	± Limit	Result	% Limit
Corner Load	grams	grams	grams	grams		
Reference	10000					
Front		10000.1	0.1	0.8	Pass	13%
Rear		9999.8	-0.2		Pass	25%
Left		9999.7	-0.3		Pass	37%
Right		10000.2	0.2		Pass	25%
Repeatability	grams	grams				
1	10000	9999.7				
2		9999.7				
3		9999.8				
4		9999.8				
5		9999.8				
6		9999.8				
7		9999.9				
8		9999.8				
9		9999.8				
10		9999.8				
Std Deviation		0.06		0.20	Pass	28%

Function/Range	Applied	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Direct Weighing	grams	grams	grams	grams	grams		
	0	0.0	0.0	0.4	0.14	Pass	0%
	3000	2999.9	-0.1			Pass	25%
	6000	5999.9	-0.1			Pass	25%
	9000	8999.8	-0.2			Pass	50%
	12000	11999.8	-0.2			Pass	50%
	15000	14999.8	-0.2			Pass	50%
	18000	17999.8	-0.2			Pass	50%
	21000	20999.9	-0.1			Pass	25%
	24000	23999.9	-0.1			Pass	25%
	27000	26999.8	-0.2			Pass	50%
	30000	29999.8	-0.2			Pass	50%

END OF REPORT