



SOUTHWEST RESEARCH INSTITUTE®

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Institute Quality Systems
Institute Calibration Laboratory
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Calibration Laboratory
Certificate #0972-01

Certificate of Calibration

Submitted By: DIV20

Address: B57

Contact: DON BANNON

Manufacturer / Model: SARTORIUS / 3808-MP8

Description: BALANCE

Serial No: 39030006

Asset No: 001444

Procedure: BALANCES & SCALES - 1 DEC 06

Work Order: 303077322

Date Issued: Nov 6, 2007

Calibration Date: Nov 5, 2007

***Calibration Due:** May 5, 2008

Calibration Location: B57

Environment: Temp. 72.1°F Hum. 61 %RH

****Data Type:** AS-LEFT

DivID/Location:

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. **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
001716	C871	RICE LAKE	1KG	WEIGHT, CLASS 1	Jun 12, 08
001718	C873	RICE LAKE	2KG	WEIGHT, CLASS 1	Jun 12, 08
002060	E302	RICE LAKE	5KG	WEIGHT, CLASS 1	Jun 12, 08
002062	E203	RICE LAKE	10KG	WEIGHT, CLASS 1	Jun 12, 08
001717	C872	RICE LAKE	2KG	WEIGHT, CLASS 1	Jun 12, 08
001719	C874	RICE LAKE	5KG	WEIGHT, CLASS 1	Jun 12, 08
002061	E204	RICE LAKE	5KG	WEIGHT, CLASS 1	Jun 12, 08

Scott Keck

Reviewed by: () wgh (✓) srk () jrg () blt () pwc

Metrology Technician

m:\a2la1.rpt Rev date August 15, 2005

Measurements by: Mark Romero

Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303077322	Mfr:	Sartorius	Technician:	Mark Romero
Asset No:	001444	Model:	3808-MP8	Cal Date:	05-Nov-07
Serial No:	39030006	Type:	Balance		

Remarks:
Ambient Conditions 72.1 °F 61 % RH 14.34 PSIA

Function/Range	Applied	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found
	grams	grams	grams	grams	grams	Result
Corner Load Reference	10000.0					
Front	0.0	0.2	0.2	0.8		Pass
Rear	0.0	-0.1	-0.1	0.8		Pass
Left	0.0	-0.3	-0.3	0.8		Pass
Right	0.0	0.3	0.3	0.8		Pass
Repeatability						
1	10000.0	10000.3				
2	10000.0	10000.3				
3	10000.0	10000.2				
4	10000.0	10000.2				
5	10000.0	10000.2				
6	10000.0	10000.3				
7	10000.0	10000.3				
8	10000.0	10000.2				
9	10000.0	10000.3				
10	10000.0	10000.3				
Std Deviation		0.05		0.20		Pass
Linearity	0.0	0.0	0.0	0.4	0.14	Pass
	3000.0	2999.8	-0.2	0.4	0.14	Pass
	6000.0	5999.9	-0.1	0.4	0.14	Pass
	9000.0	9000.0	0.0	0.4	0.14	Pass
	12000.0	12000.2	0.2	0.4	0.14	Pass
	15000.0	15000.2	0.2	0.4	0.14	Pass
	18000.0	18000.3	0.3	0.4	0.14	Pass
	21000.0	21000.4	0.4	0.4	0.14	Pass
	24000.0	24000.3	0.3	0.4	0.14	Pass
	27000.0	27000.4	0.4	0.4	0.14	Pass
	30000.0	30000.4	0.4	0.4	0.14	Pass

End of Report

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303077322	Mfr:	Sartorius	Technician:	Mark Romero
Asset No:	001444	Model:	3808-MP8	Cal Date:	05-Nov-07
Serial No:	39030006	Type:	Balance		

Remarks:

Ambient Conditions 72.1 °F 61 % RH 14.34 PSIA

Function/Range	Applied	TI Reading	Difference	+/-Limit	+/-Uncertainty	Left
	grams	grams	grams	grams	grams	Result
Corner Load Reference	10000.0					
Front	0.0	0.2	0.2	0.8		Pass
Rear	0.0	-0.1	-0.1	0.8		Pass
Left	0.0	0.1	0.1	0.8		Pass
Right	0.0	0.1	0.1	0.8		Pass
Repeatability						
1	10000.0	10000.0				
2	10000.0	10000.0				
3	10000.0	10000.0				
4	10000.0	10000.0				
5	10000.0	10000.0				
6	10000.0	10000.0				
7	10000.0	10000.0				
8	10000.0	10000.0				
9	10000.0	10000.0				
10	10000.0	10000.0				
Std Deviation		0.00		0.20		Pass
Linearity	0.0	0.0	0.0	0.4	0.14	Pass
	3000.0	3000.0	0.0	0.4	0.14	Pass
	6000.0	6000.0	0.0	0.4	0.14	Pass
	9000.0	9000.1	0.1	0.4	0.14	Pass
	12000.0	12000.1	0.1	0.4	0.14	Pass
	15000.0	15000.0	0.0	0.4	0.14	Pass
	18000.0	18000.1	0.1	0.4	0.14	Pass
	21000.0	21000.0	0.0	0.4	0.14	Pass
	24000.0	24000.1	0.1	0.4	0.14	Pass
	27000.0	27000.0	0.0	0.4	0.14	Pass
	30000.0	30000.1	0.1	0.4	0.14	Pass

End of Report