



SOUTHWEST RESEARCH INSTITUTE™

6220 Culebra Road, P.O. Drawer 28510
Institute Quality Systems
Institute Calibration Laboratory
Phone: 210-522-5215 Fax 210-522-3692



Certificate of Calibration

Certificate #
0972-01

Submitted By: DIV20
Address: T1
Contact: RON GREEN
Manufacturer Model: SARTORIUS 3808-MP8
Description: BALANCE
Serial No: 39030006
Asset No: 001444
Procedure: BALANCES & SCALES, DEC/04

Work Order: 444062464
Date Issued: Jan 14, 2005
Calibration Date: Jan 14, 2005
****Calibration Due:** Jul 14, 2005
Calibration Location: B57
Environment: Temp. 67.0°F Hum. 21 %RH
***As Found:** IN TOLERANCE
***As Left:** IN TOLERANCE

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 and ANSI/NCCL Z540-1-1994 which are equivalent to relevant requirements of the ISO 9000-1994 series of standards. This certificate may not be reproduced, except in full, without the written approval of the Southwest Research Institute Calibration Laboratory. The results of this calibration relate only to the individual instrument described above. This certificate shall not be used to claim product endorsement by the American Association for Laboratory Accreditation (A2LA) or any agency of the U. S. Government.

Uncertainty evaluation includes the item under test and is calculated in accordance with the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM). The uncertainty represents an expanded uncertainty using a coverage factor of k=2 to approximate a 95% confidence level. See Remarks or attached Calibration Report with the same Work Order number for calibration data.

*The client has sole responsibility for determination of in/out of tolerance or compliance/noncompliance. An in/out of tolerance opinion is provided for your convenience based only on the Test Instrument (TI) reading(s) and limits as reported. The reported uncertainty relates only to the results at the time of calibration and does not imply any short or long term stability of the TI.

**Calibration interval is determined by the client and does not assure the instrument will remain within tolerance until this date. Any number of factors may cause the instrument to be out of tolerance before the next calibration date.

Remarks: None

Standards Used

Asset	Manufacturer	Model	Description	Cal Due
006098	RICE LAKE	25KG	WEIGHT, CLASS 1	Jun 23, 05
002062	RICE LAKE	10KG	WEIGHT, CLASS 1	Jun 23, 05
002061	RICE LAKE	5KG	WEIGHT, CLASS 1	Jun 23, 05
001719	RICE LAKE	5KG	WEIGHT, CLASS 1	Jun 23, 05
001718	RICE LAKE	2KG	WEIGHT, CLASS 1	Jun 24, 05
001717	RICE LAKE	2KG	WEIGHT, CLASS 1	Jun 24, 05
001716	RICE LAKE	1KG	WEIGHT, CLASS 1	Jun 23, 05
005566	MERIAN	A0030P	PRESSURE GAUGE, ABSOLUTE	Apr 14, 05
007290	VAISALA	HM34F	HUMIDITY/ TEMPERATURE METER	Apr 07, 05

Approved by: Walt Hill
Metrology Group Leader
m:\a21a1.rpt Rev date 11, May 04

Measurements by: Scott Kester
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	444062464	Mfr.	Sartorius	Technician	SRK
Asset No.	001444	Model	3808-MP8	Cal Date.	14-Jan-05
Serial No.	39030006	Type.	Balance		
Remarks:					
Ambient Conditions		67 deg F		21 % RH	
				14.53 PSIA	

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Corner Load	grams	grams	grams	grams	grams	Result
	Ref	14998.9				
Front	14998.9	14999.1	0.2	0.8	0.0013	Pass
Rear	14998.9	14998.4	-0.5	0.8	0.0013	Pass
Left	14998.9	14998.4	-0.5	0.8	0.0013	Pass
Right	14998.9	14999.4	0.5	0.8	0.0013	Pass
Repeatability						
1	15000.0	14999.3				
2	15000.0	14999.3				
3	15000.0	14999.3				
4	15000.0	14999.4				
5	15000.0	14999.5				
6	15000.0	14999.4				
7	15000.0	14999.3				
8	15000.0	14999.5				
9	15000.0	14999.4				
10	15000.0	14999.4				
Std Deviation		0.08		0.20		Pass
Linearity	0.0	0.0	0.0	0.4	0.012	Pass
	3000.0	3000.0	0.0	0.4	0.012	Pass
	6000.0	6000.0	0.0	0.4	0.012	Pass
	9000.0	9000.0	0.0	0.4	0.012	Pass
	12000.0	12000.0	0.0	0.4	0.012	Pass
	15000.0	15000.0	0.0	0.4	0.012	Pass
	18000.0	18000.0	0.0	0.4	0.012	Pass
	21000.0	21000.0	0.0	0.4	0.012	Pass
	24000.0	23999.9	-0.1	0.4	0.012	Pass
	27000.0	26999.9	-0.1	0.4	0.012	Pass
	30000.0	29999.9	-0.1	0.4	0.012	Pass

End of Report