



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: B51

Contact: DON BANNON

Manufacturer / Model: METTLER / PM480

Description: BALANCE

Serial No: N45601

Asset No: 002478

Procedure: BALANCES & SCALES - 1 DEC 06

Work Order: 303080997

Date Issued: May 8, 2008

Calibration Date: May 8, 2008

***Calibration Due:** Nov 8, 2008

Calibration Location: B57

Environment: Temp. 71.0°F Hum. 45 %RH

****Data Type:** FOUND-LEFT

DivID/Location: N/A

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.

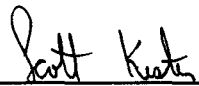
*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. **Found/Left = adjustment and/or repair was not required, As Left = adjusted and/or repaired was required. The client has sole responsibility 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
001704	C859	RICE LAKE	1G	WEIGHT, CLASS 1	Jun 14, 08
001705	C860	RICE LAKE	2G	WEIGHT, CLASS 1	Jun 14, 08
001706	C861	RICE LAKE	2G	WEIGHT, CLASS 1	Aug 09, 08
001707	C862	RICE LAKE	5G	WEIGHT, CLASS 1	Jun 14, 08
001708	C863	RICE LAKE	10G	WEIGHT, CLASS S	Aug 09, 08
001709	C864	RICE LAKE	20G	WEIGHT, CLASS 1	Aug 09, 08
001710	C865	RICE LAKE	20G	WEIGHT, CLASS 1	Aug 09, 08
001711	C866	RICE LAKE	50G	WEIGHT, CLASS 1	Aug 09, 08
001712	C867	RICE LAKE	100G	WEIGHT, CLASS S	Aug 09, 08
001713	C868	RICE LAKE	200G	WEIGHT, CLASS S	Aug 09, 08
001714	C869	RICE LAKE	200G	WEIGHT, CLASS S	Aug 09, 08

Reviewed by:  srk () mar () wgh


Measurements by: Mark Romero
Metrology Technician

Southwest Research Institute
Calibration Laboratory
Measurement Report

Work Order:	303080997	Mfr:	Mettler	Technician:	Mark Romero
Asset No:	002478	Model:	PM480		
Serial No:	N45601	Type:	Balance	Cal Date:	08-May-08

Remarks:

Ambient Conditions 71 °F 45 % RH 14.24 PSIA

Function/Range	Applied	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Corner Load	grams	grams	grams	grams	grams	Result
Reference	200.000					
Front	0.000	0.000	0.000	0.006		Pass
Rear	0.000	0.001	0.001	0.006		Pass
Left	0.000	0.002	0.002	0.006		Pass
Right	0.000	-0.001	-0.001	0.006		Pass
Repeatability						
<80g Range						
1	50.000	50.000				
2	50.000	50.000				
3	50.000	50.000				
4	50.000	50.000				
5	50.000	50.001				
6	50.000	50.001				
7	50.000	50.000				
8	50.000	50.000				
9	50.000	50.001				
10	50.000	50.000				
Std Deviation		0.0005		0.0020		Pass
Repeatability						
<410g Range						
1	200.00	200.00				
2	200.00	200.00				
3	200.00	200.00				
4	200.00	200.00				
5	200.00	200.00				
6	200.00	200.00				
7	200.00	200.00				
8	200.00	200.00				
9	200.00	200.00				
10	200.00	200.00				
Std Deviation		0.000		0.020		Pass

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Measurement Report

Work Order:	303080997	Mfr:	Mettler	Technician:	Mark Romero
Asset No:	002478	Model:	PM480		
Serial No:	N45601	Type:	Balance	Cal Date:	08-May-08

Function/Range	Applied	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
Linearity	grams	grams	grams	grams	grams	Result
<80g Range	0.000	0.000	0.000	0.010	0.0013	Pass
	7.000	7.000	0.000	0.010	0.0013	Pass
	14.000	14.000	0.000	0.010	0.0013	Pass
	21.000	21.001	0.001	0.010	0.0013	Pass
	28.000	28.001	0.001	0.010	0.0013	Pass
	35.000	35.000	0.000	0.010	0.0013	Pass
	42.000	42.000	0.000	0.010	0.0013	Pass
	49.000	49.000	0.000	0.010	0.0013	Pass
	56.000	56.001	0.001	0.010	0.0013	Pass
	63.000	63.001	0.001	0.010	0.0013	Pass
	70.000	70.001	0.001	0.010	0.0013	Pass
Linearity <410g Range	0.000	0.000	0.000	0.010	0.0013	Pass
	40.000	40.000	0.000	0.010	0.0013	Pass
	80.000	80.000	0.000	0.010	0.0013	Pass
	120.00	120.00	0.00	0.01	0.013	Pass
	160.00	160.00	0.00	0.01	0.013	Pass
	200.00	200.00	0.00	0.01	0.013	Pass
	240.00	240.00	0.00	0.01	0.013	Pass
	280.00	280.00	0.00	0.01	0.013	Pass
	320.00	320.00	0.00	0.01	0.013	Pass
	360.00	360.00	0.00	0.01	0.013	Pass
	400.00	400.01	0.01	0.01	0.013	Pass

End of Report