



# 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:** DIV20

**Mail Stop:** B51

**Customer:** DON BANNON

**Manufacturer/Model:** METTLER / PM480

**Description:** BALANCE

**Serial Number:** N45601

**Asset Number:** 002478

**Procedure:** BALANCES & SCALES - 1 DEC 06

**Work Order:** 303087713

**Date Issued:** 12-May-2009

**Date Calibrated:** 11-May-2009

**\* Date Due :** 11-Nov-2009

**\*\* Results:** FOUND-LEFT

**Temperature:** 80°F

**Humidity:** 34 %

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:

### Standards Used

<u>Asset #</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
001704	RICE LAKE	1G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001705	RICE LAKE	2G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001706	RICE LAKE	2G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001707	RICE LAKE	5G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001708	RICE LAKE	10G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001709	RICE LAKE	20G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001710	RICE LAKE	20G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001711	RICE LAKE	50G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001712	RICE LAKE	100G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001713	RICE LAKE	200G	WEIGHT, CLASS 1	5-Aug-2008	5-Aug-2009
001714	RICE LAKE	200G	WEIGHT, CLASS S	5-Aug-2008	5-Aug-2009

  
Walt Hill

Laboratory Manager

  
Carlos Mendoza

Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303087713	Mfr:	Mettler	Technician:	com
Asset No:	002478	Model:	PM480		
Serial No:	N45601	Type:	Balance	Cal Date:	11-May-09
Remarks:					
Ambient Conditions		80 °F		34 % RH	
				14.25 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	-0.002	-0.002	0.006		Pass
Rear	0.000	0.000	0.000	0.006		Pass
Left	0.000	0.000	0.000	0.006		Pass
Right	0.000	-0.002	-0.002	0.006		Pass
Repeatability						
<80g Range						
1	50.000	50.000				
2	50.000	49.999				
3	50.000	49.999				
4	50.000	49.999				
5	50.000	50.000				
6	50.000	50.000				
7	50.000	49.999				
8	50.000	49.999				
9	50.000	49.999				
10	50.000	49.999				
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:	303087713	Mfr:	Mettler	Technician:	com
Asset No:	002478	Model:	PM480		
Serial No:	N45601	Type:	Balance	Cal Date:	11-May-09

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	21.000	0.000	0.010	0.0013	Pass
	28.000	28.000	0.000	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	49.001	0.001	0.010	0.0013	Pass
	56.000	56.000	0.000	0.010	0.0013	Pass
	63.000	63.001	0.001	0.010	0.0013	Pass
	70.000	70.000	0.000	0.010	0.0013	Pass
Linearity	0.000	0.000	0.000	0.010	0.0013	Pass
<410g Range	40.000	40.001	0.001	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	280.01	0.01	0.01	0.013	Pass
	320.00	320.01	0.01	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