

# 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: METTLER TOLEDO / XP205DR

Description: BALANCE

Serial Number: 1126461033

Asset Number: 012005

Procedure: BALANCES & SCALES - 1 DEC 06

Work Order: 303098863

Date Issued: 28-Dec-2010

Date Calibrated: 28-Dec-2010

\* Date Due : 28-Jun-2011

\*\* Results: FOUND-LEFT

Temperature: 73.1 °F

Humidity: 55 %RH

Barometer: 14.32 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.

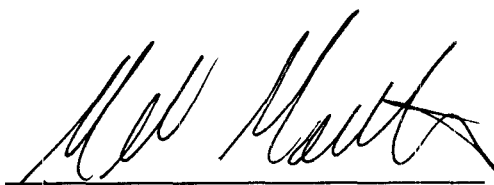
\*Determined by the customer, does not imply the instrument will remain within tolerance as any number of factors may cause an out-of-tolerance condition before this date. \*\*Data type found in this certificate or attached measurement report must be interpreted as: Found-left - adjustment and/or repair 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.

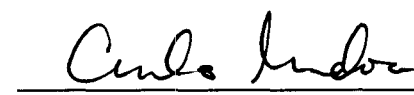
Measurement uncertainty calculated in accordance with the method described in the ISO "Guide to the Expression of Uncertainty in Measurement" (GUM), for a confidence level of approximately 95 percent using a coverage factor of  $k=2$ .

Remarks: None

### Standards Used

Asset #	Manufacturer	Model	Description	Cal Date	Due Date
001704	RICE LAKE	1 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001705	RICE LAKE	2 g	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001706	RICE LAKE	2 g	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001707	RICE LAKE	5 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001708	RICE LAKE	10 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001709	RICE LAKE	20 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001710	RICE LAKE	20 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001711	RICE LAKE	50 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001712	RICE LAKE	100 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011
001713	RICE LAKE	200 G	WEIGHT, CLASS 1	21-Jul-2010	21-Jul-2011

  
Walt Hill  
Laboratory Manager

  
Carlos Mendoza  
Metrology Technician

Southwest Research Institute  
Calibration Laboratory  
Measurement Report

Work Order:	303098863	Mfr:	Mettler	Technician:	com
Asset No:	012005	Model:	XP205DR	Type Data:	Found-left
Serial No:	1126461033	Type:	Balance	Cal Date:	28-Dec-10
Remarks:					

Function/Range	Applied	TI Reading	Difference	± Limit	Result	% Limit
Corner Load	grams	grams	grams	grams		
Reference	100					
Front		100.0000	0.0000	0.0005	Pass	0%
Rear		100.0001	0.0001		Pass	20%
Left		100.0000	0.0000		Pass	0%
Right		100.0001	0.0001		Pass	20%

Repeatability  
81 g Range

1	50	49.99995				
2		49.99994				
3		49.99994				
4		49.99996				
5		49.99995				
6		49.99997				
7		49.99996				
8		49.99997				
9		49.99997				
10		49.99998				
Std Deviation		0.000014		0.00004	Pass	35%

Repeatability  
220 g Range

1	200	199.9996				
2		199.9996				
3		199.9996				
4		199.9996				
5		199.9996				
6		199.9996				
7		199.9996				
8		199.9996				
9		199.9996				
10		199.9996				
Std Deviation		0.00000		0.00010	Pass	0%

Function/Range	Applied	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Direct Weighing	grams	grams	grams	grams	grams		
81 g Range	0.00000	0.00000	0.00000	0.00030	0.00011	Pass	0%
	7.99997	7.99995	-0.00002			Pass	7%
	15.99999	15.99995	-0.00004			Pass	13%
	23.99996	23.99995	-0.00001			Pass	3%
	31.99997	31.99996	-0.00001			Pass	3%
	39.99995	39.99997	0.00002			Pass	7%

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Measurement Report

Work Order:	303098863	Mfr:	Mettler	Technician:	com
Asset No:	012005	Model:	XP205DR	Type Data:	Found-left
Serial No:	1126461033	Type:	Balance	Cal Date:	28-Dec-10

Function/Range	Applied	TI Reading	Difference	± Limit	± Uncertainty	Result	% Limit
Direct Weighing	grams	grams	grams	grams	grams		
81 g Range (Cont)	47.99992	47.99993	0.00001	0.00030	0.00011	Pass	3%
	55.99988	55.99987	-0.00001			Pass	3%
	63.99990	63.99989	-0.00001			Pass	3%
	71.99986	71.99988	0.00002			Pass	7%
	79.99988	79.99989	0.00001			Pass	3%
220 g Range	0.0000	0.0000	0.0000	0.0003	0.00013	Pass	0%
	20.0000	20.0000	0.0000			Pass	0%
	40.0000	40.0000	0.0000			Pass	0%
	59.9999	59.9999	0.0000			Pass	0%
	79.9999	79.9999	0.0000			Pass	0%
	99.9999	99.9999	0.0000			Pass	0%
	119.9999	119.9999	0.0000			Pass	0%
	139.9999	139.9999	0.0000			Pass	0%
	159.9998	159.9998	0.0000			Pass	0%
	179.9998	179.9998	0.0000			Pass	0%
	200.0002	200.0002	0.0000			Pass	0%

END OF REPORT