

SCHULER SCIENTIFIC

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PJLA
Calibration
Accreditation No 102586

CALIBRATION CERTIFICATE

Date of issue: 11/20/2023

Certificate No: 10495_23

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INSTRUMENT

Non-automatic electronic weighing instrument

Manufacturer Schuler Scientific

Type/symbol VWR-160TC

Serial No 774810

Capacity *Max* 160 g

Scale interval *d* 0.0001 g

Capacity *Min* 0.01 g

Verification interval *e* 0.001 g

CUSTOMER

Micro Measurement Labs
1300 S Wolf Rd, Wheeling, IL 60090-6444

METHOD

Calibration Procedure: PW 01 rev. XVIII of 5/26/2022

ENVIRONMENTAL

Air temperature: (21.2 – 21.2) $\pm$ 0.2 °C

Relative air humidity: (46.5 – 49.2) $\pm$ 1.0 %

DATE PERFORMED

11/20/2023

TRACEABILITY

Asset #	Model	Description	Due Date	Traceability #
A201165	THBS	Environmental Probe 4	08/09/2024	1219/AC/22
1171221	Class E2 Weights 1mg-500g	1mg-500g set (2)	12/03/2023	135417

QUALITY STATEMENT

This instrument listed on this certificate has been calibrated against standards traceable thru National Institute of Standards and Technology (NIST/NMI), to the International System of Units (SI). Schuler Scientific's quality system complies with applicable requirements of ISO/IEC 9000, ANSI/NCSLI Z540-1 and ISO/IEC 17025:2017. Reported uncertainties are expressed as expanded uncertainty values at approximately the 95% confidence level using a coverage factor of K=2. A TUR of 4:1 is routinely observed unless otherwise noted on the Certificate. Statement of compliance, where applicable, are based on test results falling within specified limits with the reduction of the uncertainty of the measurement taken into account. Calibration due dates appearing on the Certificate of Calibration and label are determined by the client for administrative purposes and do not imply continued conformance to specification. All results contained herein relate only to items(s) calibrated. This certificate shall not be reproduced except in full, without the written permission of Schuler Scientific.

**CALIBRATION
RESULTS**

Calibration results are the following:

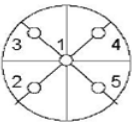
Adjustment device: Internal

Adjustment weight: Internal

MEASUREMENT ERROR AND REPEATABILITY

Load L g	Load TARE L_T g	Mass reference m_{ref} g	Indication of instrument I g	Measurement error $E(I)$ g	Standard deviation s g	Uncertainty of measurement $U(E)$ g
0.01	0	0.01000	0.0101	0.00006	0.00007	0.000093
20	0	20.00001	20.0001	0.00007	0.00006	0.00011
50	0	50.00001	50.0001	0.00010	0.00007	0.00016
100	0	100.00002	100.0000	-0.00005	0.00007	0.00027
150	0	150.00003	150.0001	0.00002	0.00007	0.00039

ECCENTRICITY

Position of load	Load L_{ecc} g	Number of area	Indication of instrument I_{ecc} g	Indication difference ΔI_{ecc} g	Indication difference /Max/ $ \Delta I_{ecc} _{max}$ g
 Load 1/2 distance from center and edge of pan	50	1	49.9999		0.0002
		2	49.9999	0.0000	
		3	50.0001	0.0002	
		4	49.9998	-0.0001	
		5	49.9998	-0.0001	

Authorized by: Lynsey Capra

