

MEASURE TECHNO LAB

**2, B.T. ROAD (JAYANTI CINEMA COMPLEX)
BARRACKPORE, KOLKATA - 700120, W.B.**

Form No. - MTL/22/2006

**CALIBRATION CERTIFICATE OF
MICRO PIPETTE**



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CALIBRATION CERTIFICATE NO.::MTL / MMC&H(HIV) / R05 / 02 - 22

ULR - CC254522000006779F

Page: 1 of 1

1.0 Service Request No.: MTL / 23B / 02 / 21 - 22

1.1 Issued to: In - Charge HIV Testing Laboratory,
Department of Microbiology,
Midnapore Medical College & Hospital,
Paschim Medinipur, West Bengal – 721101.

1.2 Description & Identification of item to be Calibrated:

a) Name:	Micro Pipette	b) Code No.:	MMC / MICRO / SERO / MP - 01
c) Sl. No.:	19046590	d) Make:	Sartorius
e) Model / Type:	Proline Plus	f) Range:	100 µl to 1000 µl
g) Sensor:	N.A.	h) Resolution:	1 µl
i) End User:	Serology	j) Accuracy:	N.S.
k) Calibration done at:	On Site / √ In House		

1.3 Date of receipt of item : 23-02-22 **1.4 Physical Condition of DUC :** OK
1.5 Date of calibration : 24-02-22 **1.6 Recommended date of next calibration :** 24-02-23
1.7 Date of Issue : 26-02-22

1.8 Environmental Conditions During Calibration:

Temperature:	23 °C ± 2 °C
Humidity:	50 % RH ± 10 % RH
Pressure:	1013.3 mbar

1.9 Method of Calibration: SOP / MASS / 02 (As Per ISO : 8655 – 6 : 2002)

2.0 Traceability :

a) Standards used for calibration are traceable to National standards through NABL Accredited Laboratory.

b) The following standards / Equipment have been used.

- i) Weight Box (E1) Cal. Certificate No. WI / May / 19 / 010 (WEIGH INDIA, New Delhi) (Cal. Date: 17/05/19, Due Date: 17/05/22)
- ii) Data Acquisition Switch Unit Cal. Certificate No. JRPM - CCTR - ET - 2021 - 1227 (JRPM, Chennai) (Cal. Date: 26/08/21, Due Date: 25/08/22)
- iii) RTD (PT - 100) Cal. Certificate No. TL / 021 / 1091.2.1 (TEMPSENS, Udaipur) (Cal. Date: 25/10/21, Due Date: 24/10/22)

2.1 Result :

Mechanical Calibration

Sl. No.	Parameter/ Range	Nominal Value µl	Mass of Water mg	Volume of Water at 20 °C µl	Error µl	Measurement Expanded Uncertainty ± µl
1.	Volume	100	97.2129	97.6018	-2.3982	0.39
2.	100 µl to 1000	500	494.4935	496.4715	-3.5285	
3.	µl	1000	991.3394	995.3048	-4.6952	

Remarks: i) Cubical Expansion co - efficient of pipette material taken as 10⁻⁵ µl / °k.

ii) This result has an expanded uncertainty with a coverage factor k=2 at approximately 95% confidence level.

iii) The calibration certificate issued for this instrument is to be used for scientific or industrial purposes only.

DUC - Device Under Calibration

N.S. - Not Specified

N.A. - Not Applicable

Opinions and Interpretations

Calibrated	√	Accepted / Valid for use
Limited Use		Rejected / Out of use

Calibrated by: neer
 Measure Techno Lab
 K. Barat
 Testing Engineer

26/02/22

Checked / Approved by:

Quality & Technical Manager
 S. Pandey