



MEASURE TECHNO LAB

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KOLKATA - 700120, W.B.



CC - 2545

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CALIBRATION CERTIFICATE OF MICRO PIPETTE

CALIBRATION CERTIFICATE NO.: MTL / HIVTL (S) / R02 / 02 - 23

ULR - CC254523000004626F

Page: 1 of 1

1.0 Service Request No.: MTL / 24B / 02 / 22 - 23

1.1 Issued to: HIV Testing Laboratory (SRL & ICTC),
Department of Microbiology,
New STNM Multi Speciality Hospital,
Sochakgang, Gangtok, Sikkim - 737101.

1.2 Description & Identification of Item to be Calibrated:	a) Name:	Micro Pipette	b) Code No.:	MICRO / STNM / SRL / PT / 3
	c) Sl. No.:	LW10246	d) Make:	Thermo Scientific
	e) Model / Type:	Finnpipette F3	f) Range:	10 µl to 100 µl
	g) Sensor:	N.A.	h) Resolution:	0.2 µl
	i) End User:	Lab	j) Accuracy:	N.S.
	k) Calibration done at:	On Site / √ In House		

1.3 Date of receipt of Item :	23-02-23	1.4 Physical Condition of DUC :	OK
1.5 Date of calibration :	24-02-23	1.6 Recommended date of next calibration :	24-02-24
1.7 Date of Issue :	25-02-23		

1.8 Environmental Conditions During Calibration:

Temperature:	23 °C ± 2 °C
Humidity:	50 % RH ± 10 % RH
Pressure:	1013.1 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) Weights Cal. Certificate No. NC-210 (NSTAR, Ahmedabad) (Cal. Date: 16/05/22, Due Date: 15/05/25)
ii) Digital Thermometer With Sensor Cal. Certificate No. MTL / TH / DTM / R01 / 09 - 22 (MTL, Barrackpore) (Cal. Date: 16/09/22, Due Date: 16/09/23)

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	10	9.8871	9.9266	-0.0734	0.39
2.	10 µl to 100 µl	50	49.5059	49.7039	-0.2961	
3.		100	99.2447	99.6417	-0.3583	

Remarks: I) Cubical Expansion co-efficient of pipette material taken as $10^{-5} \mu\text{l} / ^\circ\text{K}$.

- 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:

Calibration Engineer
K. Barat
Measure Techno Lab
Calibration Engineer
Kolkata

Checked / Approved by:

Quality & Technical Manager
Sandeep