



MEASURE TECHNO LAB

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CC - 2545

CALIBRATION CERTIFICATE OF MICRO PIPETTE

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CALIBRATION CERTIFICATE NO.: MTL / MCL / R13 / 12 - 23

ULR - CC254523000042722F

1.0 Service Request No.: MTL / 12B / 12 / 23 - 24

1.1 Issued to: M/s. Mukherjee Clinical Laboratory,
43/C/5, Jatindra Sarani, Champadali,
North 24 Parganas, Kolkata - 700124.

1.2 Description & Identification of item to be Calibrated:	a) Name:	Micro Pipette	b) Code No.:	MCL / MP / 04
	c) Sl. No.:	ACA200011610100	d) Make:	CAPP
	e) Model / Type:	N.S.	f) Range:	10 µl to 200 µl
	g) Sensor:	N.A.	h) Resolution:	1 µl
	i) End User:	Lab	j) Accuracy:	N.S.
	k) Calibration done at:	On Site / √ In House		

1.3 Date of receipt of item : 12-12-23

1.4 Physical Condition of DUC : OK

1.5 Date of calibration : 13-12-23

1.6 Recommended date of next calibration : 13-12-24

1.7 Date of Issue : 14-12-23

1.8 Environmental Conditions During Calibration:

Temperature:	20 °C ± 2 °C
Humidity:	30 % RH to 75 % RH
Pressure:	1012 mbar

1.9 Method of Calibration: SOP / MASS / 02 (As Per ISO : 8655 - 6 : 2022)

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 - 23 (MTL, Barrackpore) (Cal. Date: 15/09/23, Due Date: 15/09/24)

2.1 Result :

Mechanical Calibration: (Mass & Volume)

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	9.7552	9.7942	-0.2058	0.32
2.	10 µl to 200 µl	100	99.9413	100.3411	0.3411	0.33
3.		200	199.6612	200.4598	0.4598	0.35

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.

iv) Calibrations are carried out without any adjustment or repair.

DUC - Device Under Calibration

N.S. - Not Specified

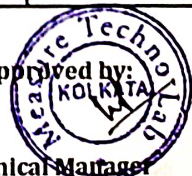
N.A. - Not Applicable

Opinions and Interpretations

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

Calibration Engineer
Measure Techno Lab
Kolkata
S. Manapatra
Calibration Engineer

Checked / Approved by:



Quality / Technical Manager

S. Pandey