



# MEASURE TECHNO LAB

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



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## CALIBRATION CERTIFICATE OF MICRO PIPETTE

CC - 2545

CALIBRATION CERTIFICATE NO.: MTL / MCL / R04 / 12 - 23

ULR - CC254523000042520F

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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 / 01
	c) Sl. No.:	NE459292	d) Make:	Erba
	e) Model / Type:	N.S.	f) Range:	100 µl to 1000 µl
	g) Sensor:	N.A.	h) Resolution:	5 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 : 12-12-23

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

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:	1010 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	100	98.0260	98.4181	-1.5819	0.34
2.	100 µl to 1000 µl	500	500.7120	502.7148	2.7148	0.35
3.	µl	1000	1000.0234	1004.0235	4.0235	0.37

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

DUC - Device Under Callbration

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