



# MEASURE TECHNO LAB

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



NABL ACCREDITED LABORATORY  
Certificate No. CC - 2545

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## CALIBRATION CERTIFICATE OF MICRO PIPETTE

CALIBRATION CERTIFICATE NO.: MTL / CARI(KOL) / R13 / 06 - 22

ULR - CC254522000016388F

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1.0 Service Request No.: MTL / 14G / 06 / 22 - 23

1.1 Issued to: Central Ayurveda Research Institute  
CCRAS, Ministry of AYUSH,  
4 - CN Block, Sector - V, Bidhannagar,  
Kolkata - 700091.

1.2 Description & Identification of item to be Calibrated:	a) Name:	Micro Pipette	b) Code No.:	CARI / KOL / MP - 08
	c) Sl. No.:	PW16529	d) Make:	Thermo Scientific
	e) Model / Type:	Finnpipette F3	f) Range:	2 µl to 20 µl
	g) Sensor:	N.A.	h) Resolution:	0.02 µl
	i) End User:	Bio-Chemistry	j) Accuracy:	N.S.
	k) Calibration done at:	On Site / √ In House		

1.3 Date of receipt of item : 20-06-22      1.4 Physical Condition of DUC : OK

1.5 Date of calibration : 21-06-22      1.6 Recommended date of next calibration : 21-06-23

1.7 Date of Issue : 22-06-22

1.8 Environmental Conditions During Calibration:

Temperature:	23 °C ± 2 °C
Humidity:	50 % RH ± 10 % RH
Pressure:	1000.6 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) Digital Thermometer With Sensor Cal. Certificate No. MTL / TH / DTM / R01 / 09 - 21 (MTL, Barrackpore) (Cal. Date: 18/09/21, Due Date: 18/09/22)
- ii) Weights Cal. Certificate No. NC-210 (NSTAR, Ahmedabad) (Cal. Date: 16/05/22, Due Date: 15/05/25)

### 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	2	2.0547	2.0629	0.0629	0.039
2.	2 µl to 20 µl	10	10.0340	10.0741	0.0741	0.39
3.		20	20.0337	20.1138	0.1138	0.39

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

Calibration Engineer  
Measure Techno Lab  
Kolkata  
S. Mahapatra  
Calibration Engineer

*S.M.*  
22/06/22

Checked / Approved by



Quality & Technical Manager

S. Pandey