



MEASURE TECHNO LAB

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

Phone : 033 - 2215 - 0032, 2215 - 9687, 8100875519, Mobile: 9831190974,
LAB:- 8100143376, E-mail: measuretechno@yahoo.co.in



CALIBRATION CERTIFICATE OF MICRO PIPETTE

CC - 2546

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CALIBRATION CERTIFICATE NO.: MTL / D / R10 / 06 - 23

ULR - CC254523000018174F

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

1.1 Issued to: M/s. Diagnostics,
190B, Rashbehari Avenue,
Kolkata - 700029.

1.2 Description & Identification of item to be Calibrated:	a) Name: Micro Pipette	b) Code No.: DIA / BIO / MP / 5-50 / 01
	c) Sl. No.: 00080953	d) Make: Microlit
	e) Model / Type: N.S.	f) Range: 5 µl to 50 µl
	g) Sensor: N.A.	h) Resolution: 1 µl
	i) End User: Biochemistry	j) Accuracy: N.S.
	k) Calibration done at: On Site / √ In House	

1.3 Date of receipt of item :	24-06-23	1.4 Physical Condition of DUC :	OK
1.5 Date of calibration :	26-06-23	1.6 Recommended date of next calibration :	26-06-24
1.7 Date of Issue :	28-06-23		

1.8 Environmental Conditions During Calibration:

Temperature:	20 °C ± 2 °C
Humidity:	30 % RH to 75 % RH
Pressure:	998.1 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 - 22 (MTL, Barrackpore) (Cal. Date: 16/09/22, Due Date: 16/09/23)

2.1 Result:

Mechanical Calibration : (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	5	5.1786	5.1993	0.1993	0.042
2.	5 µl to 50 µl	25	24.5298	24.6279	-0.3721	0.39
3.		50	49.3539	49.5513	-0.4487	0.39

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

Calibrated by:
S. Mahapatra
Kolkata
Calibration Engineer

Checked / Approved by:
S. Pandey
Quality & Technical Manager