



MEASURE TECHNO LAB
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CALIBRATION CERTIFICATE OF MICRO PIPETTE

CALIBRATION CERTIFICATE NO.: MTL / D / R12 / 06 - 24

ULR - CG254624000029527F

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1.0 Service Request No.: MTL / 14G / 06 / 25 - 26

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
 c) Sl. No.: 552906H
 e) Model / Type: P100
 g) Sensor: N.A.
 i) End User: Biochemistry
 k) Calibration done at: On Site / In House
 b) Code No.: DIA / BIO / MP - 04
 d) Make: Gilson
 f) Range: 10 µl to 100 µl
 h) Resolution: 0.2 µl
 j) Accuracy: N.S.

1.3 Date of receipt of item : 25-06-24

1.5 Date of calibration : 26-06-24

1.7 Date of Issue : 29-06-24

1.8 Environmental Conditions During Calibration:

1.4 Physical Condition of DUC : OK
 1.6 Recommended date of next calibration : 26-06-25

1.9 Method of Calibration:

Temperature: 20 °C ± 2 °C
 Humidity: 30 % RH to 75 % RH
 Pressure: 998.2 mbar

2.0 Traceability :

SOP / MASS / 02 (As Per ISO : 8655 - 6 : 2022)

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	20	20.1772	20.2579	0.2579	0.35
2.	10 µl to 100 µl	100	99.2853	99.6824	-0.3176	0.35
3.		200	199.6499	200.4485	0.4485	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 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:
K. Barat
 K. Barat
 Calibration Engineer
 Measure Techno Lab.
 Kolkata

Checked / Approved by:

 Quality / Technical Manager

Form No. - MTL/22/2006 Issue No. : 2 Issue Date : 10.11.06 Rev. Date : 01.04.22