



MEASURE TECHNO LAB

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



CC - 2545

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CALIBRATION CERTIFICATE OF MICRO PIPETTE

CALIBRATION CERTIFICATE NO.: MTL / SQDPL / R10 / 03 - 24

ULR - CC254524000012788F

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1.0 Service Request No.: MTL / 18A / 03 / 23 - 24

1.1 Issued to: M/s. SpectroQ Diagnostics Pvt. Ltd.
Plot No. - 853 / 4786, 1st Floor,
Jharapada, Govinda Prasad, Cuttack Road,
Bhubaneswar, Khordha - 751006.

1.2 Description & Identification of item to be Calibrated:	a) Name:	Micro Pipette	b) Code No.:	PPT - 03
	c) Sl. No.:	YE214AS0196848	d) Make:	Dragon Lab
	e) Model / Type:	N.S.	f) Range:	10 µl to 100 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 :	16-03-24	1.4 Physical Condition of DUC :	OK
1.5 Date of calibration :	19-03-24	1.6 Recommended date of next calibration :	19-03-25

1.7 Date of Issue : 21-03-24

1.8 Environmental Conditions During Calibration:

Temperature:	20 °C ± 2 °C
Humidity:	30 % RH to 75 % RH
Pressure:	1008 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	9.8783	9.9178	-0.0822	0.31
2.	10 µl to 100 µl	50	49.9146	50.1143	0.1143	0.32
3.		100	99.9796	100.3795	0.3795	0.33

- 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

Calibration Engineer
Measure Techno Lab
Kolkata
S. Mahapatra S.M
Calibration Engineer



Checked / Approved by
Quality / Technical Manager

S. Pandey