



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

NABL ACCREDITED LABORATORY
Certificate No. CC - 2513

CALIBRATION CERTIFICATE NO.: MTL / SRL(DGP) / R03 / 09 - 22

ULR - CC254522000025275F

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1.0 Service Request No.: MTL / 05A / 09 / 22 - 23

1.1 Issued to: M/s. SRL Limited,
Ambedkar Sarani, City Centre, CA - 11,
Urvashi Phase II, City: Durgapur - 713216.

1.2 Description & Identification of item to be Calibrated:	a) Name:	Micro Pipette	b) Code No.:	PT - 005
	c) Sl. No.:	YL175AB0013914	d) Make:	AG Life
	e) Model / Type:	N.S.	f) Range:	20 µl to 200 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 : 05-09-22

1.4 Physical Condition of DUC : OK

1.5 Date of calibration : 05-09-22

1.6 Recommended date of next calibration : 05-09-23

1.7 Date of Issue : 06-09-22

1.8 Environmental Conditions During Calibration:

Temperature:	23 °C ± 2 °C
Humidity:	50 % RH ± 10 % RH
Pressure:	1002 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	20	19.8045	19.8837	-0.1163	0.39
2.	20 µl to 200 µl	100	99.3871	99.7846	-0.2154	
3.		200	198.4079	199.2015	-0.7985	

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

Calibrated by:

K. Barat
 Calibration Engineer
 Measure Techno Lab
 Kolkata

Checked / Approved by:

S. Pandey
 Quality & Technical Manager
 S. Pandey

Form No. - MTL/22/2006

Issue No. : 2 Issue Date : 10.11.06

Rev. No. : 04 Rev. Date : 01.04.22