


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	Form No. - MTL/22/2006	 <small>NABL ACCREDITED LABORATORY Certificate No. CC- 3515</small>
	CALIBRATION CERTIFICATE OF AUTO PIPETTE	
CALIBRATION CERTIFICATE NO.: MTL / HOP(LN-II) / R04 / 09 - 21		ULR - CC254521000018556F

1.0 Service Request No.: MTL / 14E / 09 / 21 - 22

1.1 Issued to: House of Pathology Labs Pvt. Ltd.
L - 113, Lajpat Nagar - 2,
New Delhi - 24.

1.2 Description & Identification of item to be Calibrated:

a) Name:	Auto Pipette	b) Code No.:	N.A.
c) Sl. No.:	YEAA9AD0011937	d) Make:	Dragon Lab
e) Model / Type:	N.A.	f) Range:	100 µl to 1000 µl
g) Sensor:	N.A.	h) Resolution:	5 µl
i) End User:	Lab	j) Accuracy:	± 8.0 µl
k) Calibration done at:	On Site / √ In House		

1.3 Date of receipt of item : 09-09-21 **1.4 Physical Condition of DUC :** OK

1.5 Date of calibration : 14-09-21 **1.6 Recommended date of next calibration :** 14-09-22

1.7 Date of Issue : 16-09-21

1.8 Environmental Conditions During Calibration:

Temperature:	23 °C ± 2 °C
Humidity:	50 % RH ± 10 % RH
Pressure:	1005.6 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) Weight Box (E1) Cal. Certificate No. WI / May / 19 / 010 (WEIGH INDIA, New Delhi) (Cal. Date: 17/05/19, Due Date: 17/05/22)

ii) Data Acquisition Switch Unit Cal. Certificate No. JRPM - CCTR - ET - 2021 - 1227 (JRPM, Chennai) (Cal. Date: 26/08/21, Due Date: 25/08/22)

iii) RTD (PT - 100) Cal. Certificate No. TL / 020 / 891.2.1 (TEMPSENS, Udaipur) (Cal. Date: 27/10/20, Due Date: 26/10/21)

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	100	101.7018	102.1178	2.1178	0.39
2.	100 µl to 1000 µl	500	501.4055	503.4562	3.4562	
3.	µl	1000	1000.6853	1004.7781	4.7781	

Remarks: i) Cubical Expansion co-efficient of pipette material taken as 10⁻⁵ µl / °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
K. Barat
Testing Engineer
Measure Techno Lab
Kolkata

Checked / Approved by:

Quality & Technical Manager
S. Pandey