


<b>MEASURE TECHNO LAB</b> <b>2, B.T. ROAD (JAYANTI CINEMA COMPLEX)</b> <b>BARRACKPORE, KOLKATA - 700120, W.B.</b> <b>Phone : 033 - 2215 - 0032, 2215 - 9687, 8100875519,</b> <b>Mobile: 9831190974 , LAB:- 8100143376,</b> <b>E-mail: measuretechno@yahoo.co.in</b>	Form No. - MTL/22/2006	 <small>NABL ACCREDITED LABORATORY Certificate No. CC - 2515</small>
	<b>CALIBRATION CERTIFICATE OF AUTO PIPETTE</b>	
CALIBRATION CERTIFICATE NO.:MTL / HOP(LN-II) / R01 / 09 - 21		ULR - CC254521000018553F <span style="float: right;">Page: 1 of 1</span>

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.:	PJ566482	d) Make:	P' fact
	e) Model / Type:	N.A.	f) Range:	20 µl to 200 µl
	g) Sensor:	N.A.	h) Resolution:	1 µl
	i) End User:	Lab	j) Accuracy:	± 1.60 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 Callibration: 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 (TEMPESENS, 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	20	19.4952	19.5749	-0.4251	0.39
2.	20 µl to 200 µl	100	98.8229	99.2271	-0.7729	
3.		200	197.9553	198.7649	-1.2351	

- 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**  
K. Barat  
Testing Engineer  
*Testing Engineer*

  
Checked / Approved by  
**KOLKATA**  
**SKP**  
Quality & Technical Manager

Measure Techno Lab  
Kolkata

S. Pandey