



Hi-Tech Laboratory & Services

(A House of Measurement & Calibration)

Shivani Complex, C-4, Vidya Vihar, Opp. Barkatullah University,
Bhopal- 462 026 M.P., India
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CALIBRATION CERTIFICATE

(Form No. HTLS/QF/7.8.1/01 (Amendment No. 00 Dated 1st January 2020))

ULR : CC268924100008668F		Mechanical Calibration		Certificate Issue Date: 02.09.2024	
Certificate No	Received On	Received Condition	Calibration On	Calibration Due	Page No.
HTLS/24/PPPL/878.01	30.08.2024	Working	31.08.2024	30.08.2025 (As per customer requirements)	1 of 1

1) a. Calibrated for:

M/s Pari Pathology Pvt. Ltd.,
H.no.11, Shivnagar Hinotiya, 80 Feet Road,
Ashoka Garden, Bhopal - 462023 (M.P.),

b. Name of Equipment /Instrument :

Micro Pipette

c. Calibration Location: At Lab

2) Description & Identification of Equipments / Instruments Under Calibrations (EUC*):

Manufactured by	Type	Serial No.	Identification No.	Location
Dragon Lab	VARIABLE	YE226AX0390817	--	Lab
Capacity (Volume)	Least Count	Calibrated Range	Declared Accuracy	
5 to 50 µl	0.5 µl	10 to 50µl	as per OIML, ISO: 4787:2010	

3) Standards/ Calibrator & Measuring Equipments Used :

Standards Used	Make / Id.No.	Traceability Certificate No.	Calibrated By	Validity
Stainless Steel Weights (E2 Class)	1mg to 200g BWB/E2/01	BBT/888/JUL/24	NABL : CC3082	07.07.2026
High Precision Digital Thermometer With RTD (PT - 100X1)	Yudian & AI-5600 / HTLS/DT/01	T/223/2/2113032783	NABL : CC2840	04.11.2024
Digital Thermo Hygrometer & Barometer	Lutron / HTLS/HM/02	HTC/2023/11/30148	NABL : CC2478	06.11.2024

with Micro precision balance & pycnometer and Distilled water
The Standards used for calibration were calibrated by using reference standard traceable to National Standard .

4) Principle /Methodology of Calibration & Procedure :

Methodology adopted for Calibration is as per HTLS Procedure NO.HTLS/CP/µP/01 , As per ISO : 8655-6:2002 & EURAMET cg-19

5) Calibration Results:

Sl. No.	Unit	Nominal Capacity of µ pipette at 25°C	Observed Capacity of µ pipette at 25°C (Average)	Deviation
a.	µl	10.0	10.02	-0.02
b.	µl	25.0	24.78	0.22
c.	µl	50.0	50.05	-0.05

Expanded uncertainty of measurement is ±0.2µl (full capacity) , taking coverage factor K=2, corresponding to a level of confidence of at approx 95% .

The values have been rounded off as per IS-2-1960(whenever applicable).

Z correction factors (Temperature and Air pressure) have been applied as per ISO:8655-6:2002

6) Environmental Condition's):

a) Temperature: 25±2°C

b) Humidity: 50±20%

7) Calibration Status & Remark :

- A Calibration Sticker has been affixed on EUC*.
- The Micro Pipette has been calibrated and status report has been given.
- Refer to report before use. Under NABL scope above 10 µl .

Calibrated by :
ATUL SINGH
Calibration Engineer

AS

Approved by :
SANJAY BAIS
Quality Manager

SB



*****END OF THE CERTIFICATE*****



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HTLS/24/PPPL/878 02	30.08.2024	Working	31.08.2024	30.08.2025	1 of 1
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Ashoka Garden, Bhopal - 462023 (M.P.),

b. **Name of Equipment /Instrument :**

Micro Pipette

c. **Calibration Location: At Lab**

2) **Description & Identification of Equipments / Instruments Under Calibrations (EUC*):**

Manufactured by	Type	Serial No.	Identification No.	Location
Dragon Lab	VARIABLE	YE21AAV0092404	-	Lab
Capacity (Volume)	Least Count	Calibrated Range	Declared Accuracy	
100 - 1000µl	5 µl	Full Range	as per OIML, ISO: 4787:2010	

3) **Standards/ Calibrator & Measuring Equipments Used :**

Standards Used	Make / Id.No.	Traceability Certificate No.	Calibrated By	Validity
Stainless Steel Weights (E2 Class)	1mg to 200g BWB/E2/01	BBT/888/JUL/24	NABL : CC3082	07.07.2026
High Precision Digital Thermometer With RTD (PT - 100X1)	Yudian & AI-5600 / HTLS/DT/01	T/223/2/2113032783	NABL : CC2840	04.11.2024
Digital Thermo Hygrometer & Barometer	Lutron / HTLS/HM/02	HTC/2023/11/30148	NABL : CC2478	06.11.2024

with precision balance & pycnometer and Distilled water

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Methodology adopted for Calibration is as per HTLS Procedure NO.HTLS/CP/µP/01 , As per ISO : 8655-6:2002 & EURAMET cg-19

5) **Calibration Results:**

Sl. No.	Unit	Nominal Capacity of µ pipette at 25°C	Observed Capacity of µ pipette at 25°C (Average)	Deviation
a.	µl	100	100.34	-0.34
b.	µl	500	500.86	-0.86
c.	µl	1000	1003.56	-3.56

Expanded uncertainty of measurement is $\pm 3.12 \mu\text{l}$ (full capacity) , taking coverage factor $K=2$, corresponding to a level of confidence of at approx 95% .

The values have been rounded off as per IS:2-1960(whenever applicable).

Z correction factors (Temperature and Air pressure) have been applied as per ISO:8655-6:2002

6) **Environmental Condition's):**

a) Temperature: $25 \pm 2^\circ\text{C}$

b) Humi $50 \pm 20\%$

7) **Calibration Status & Remark :**

- A Calibration Sticker has been affixed on EUC*.
- The Micro Pipette has been calibrated and status report has been given.
- Refer to report before use.

Calibrated by :	
ATUL SINGH Calibration Engineer	

*****END OF THE CERTIFICATE*****

Approved By :	
SANJAY BAIS Quality Manager	

