

## CALIBRATION CERTIFICATE

SUBJECT: CALIBRATION OF MICROPIPETTE	CERTIFICATE NO.: ML/MCH/1381/02/2023-24	
	Certificate Issue Date 23/09/2023	Page 1 of 1



1. **Scope**
- 1.1 **Service Request Details**
- 1.1.1 **Service Request No.** Calibration  
ML/1381/23-24
- 1.1.2 **Service Request Finalized On** 18/09/2023
- 1.1.3 **Unique Lab Report Number (ULR No.)** CC266423000027466F
- 1.1.4 **Discipline / Group** Mechanical / Volume
- 1.1.5 **Name & Address of Organization** NOBEL MICROPATH LABORATORY  
G3, Ground floor, Infinity Tower, near Railway Station, Surat, Gujarat, India, 395003.

1.2 **Item Details**

1.2.1 **Condition of the Item** Working

1.2.2

<b>Nomenclature</b> Micropipette			
<b>Manufacturer</b>	Thermo Scientific	<b>Model No.</b>	---
<b>ID No.</b>	TW02025	<b>Sr.No.</b>	TW02025
<b>Range</b>	20 to 200 µl	<b>Type</b>	Analog (Variable)
<b>Least Count</b>	0.2 µl	<b>Accuracy</b>	---
<b>Department</b>	---	<b>Location</b>	---

1.3 **Item Received On** Dt. 20/09/2023

1.4 **Details of Test Equipments Used**

Instrument Name	UID No.	Certificate No.	Make	Due Date
Micro Balance	ML/DWB/009	NC-520	RADWAG	09/10/2023

1.4.1 **Operating Procedures Used:** ML/SOP/M/WWW/003

1.4.2 **Reference Standard:** ISO-TR 20461

1.5 **Date of Calibration:** 21-September-2023

1.6 **Recommended Due Date of Calibration:** 20-September-2024

1.7 **OBSERVATIONS:**

1.7.1 **Laboratory Ambient:** Temperature: 25.4 °C (22.5±4.5) Humidity: 51.3 %RH (50±10) Pressure: 1001.2 hPa (950±100)

1.7.2 **Parameter:** Volume (µl) Measured Value Converted @27°C

Sr. No.	Measured Value on Master (A)	Set Value on IUC (B)	Error (B - A)	(±) Expanded Uncertainty
1	39.677	40.0	0.323	0.29 µl
2	99.246	100.0	0.754	0.29 µl
3	179.331	180.0	0.669	0.86 µl

1.8 **General Remarks:**

- The reported uncertainty is the expanded uncertainty in measurement obtained by multiplying the standard uncertainty by the coverage factor  $k=2$ , which corresponds to a coverage probability of approximately 95.45% for a normal distribution.
- Uncertainty to be calculated at Max Error / Full Range of IUC
- Any anomalies/Discrepancies in the certificate should be brought to our notice within 30 days from the date of issue Certificate.
- IUC\* (Instrument Under Calibration)
- The Measurements are metrologically traceable to applicable national /International Standards.
- Any hand written corrections (except @) or photocopies of the report invalidates this certificate.
- The results related to the item calibrated.

Calibrated By: Pankaj J. Senior Calibration Engineer

AUTHORISED SIGNATORY

Ranjit Rohit, Technical Director / Quality Manager

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