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| MEASURE TECHNO LAB 2, B.T. ROAD (JAYANTI CINEMA COMPLEX) BARRACKPORE, KOLKATA - 700120, W.B. | Form No. - MTL/22/2006 |  <small>NABL ACCREDITED LABORATORY Certificate No. CC - 2545</small> |
| | CALIBRATION CERTIFICATE OF MICRO PIPETTE | |
| Phone : 033 - 2215 - 0032, 2215 - 9687, 8100875519, Mobile: 9831190974 , LAB:- 8100143376, E-mail: measuretechno@yahoo.co.in | ULR - CC254522000000374F | Page: 1 of 1 |
| CALIBRATION CERTIFICATE NO.: MTL / SRLDSL / R06 / 01 - 22 | | |

1.0 Service Request No.: MTL / 05C / 01 / 21 - 22

1.1 Issued to: M/s. SRL Dankuni Stat Lab,
Prabhat Sandhya Appt., Ground Floor,
Mouza - Marigala, Ward No. - 13,
Dankuni, Hooghly, Pin - 712311.

1.2 Description & Identification of item to be Calibrated:

| | | | |
|------------------|---------------|----------------|---------------|
| a) Name: | Micro Pipette | b) Code No.: | PT / 006 |
| c) Sl. No.: | 16018709 | d) Make: | Sartorius |
| e) Model / Type: | N.S. | f) Range: | 2 µl to 20 µl |
| g) Sensor: | N.A. | h) Resolution: | 0.02 µl |
| i) End User: | Lab General | j) Accuracy: | N.S. |

k) Calibration done at: On Site / In House

1.3 Date of receipt of item : 04-01-22 1.4 Physical Condition of DUC : OK

1.5 Date of calibration : 05-01-22 1.6 Recommended date of next calibration : 05-01-23

1.7 Date of Issue : 06-01-22

1.8 Environmental Conditions During Calibration:

| | |
|--------------|-------------------|
| Temperature: | 23 °C ± 2 °C |
| Humidity: | 50 % RH ± 10 % RH |
| Pressure: | 1014.8 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) Data Acquisition Switch Unit Cal. Certificate No. JRPM - CCTR - ET - 2021 - 1227 (JRPM, Chennai) (Cal. Date: 26/08/21, Due Date: 25/08/22)
- ii) RTD (PT - 100) Cal. Certificate No. TL / 021 / 1091.2.1 (TEMPSENS, Udaipur) (Cal. Date: 25/10/21, Due Date: 24/10/22)
- iii) Weight Box (E1) Cal. Certificate No. WI / May / 19 / 010 (WEIGH INDIA, New Delhi) (Cal. Date: 17/05/19, Due Date: 17/05/22)

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 | 2 | 1.9016 | 1.9092 | -0.0908 | 0.039 |
| 2. | 2 µl to 20 µl | 10 | 9.8642 | 9.9037 | -0.0963 | 0.039 |
| 3. | | 20 | 19.8219 | 19.9012 | -0.0988 | 0.39 |

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 |

Testing Engineer
Calibrated by:
Measure Techno Lab
S. Manjappa
Testing Engineer
06/01/22

Checked / Approved by:

Quality & Technical Manager
S. Pandey