



UNIQUE CALIBRATION SOLUTIONS LLP

An ISO/IEC-17025:2017 / ACCREDITED BY NABL

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CS-3192

CALIBRATION CERTIFICATE

| | | | |
|--------------------------|---|--|-------------------|
| ULR NO : | CC310222000000862F | CERTIFICATE NO : | UCSL/03-22/075_05 |
| Customer Name & Address: | M/s. ICTC THALUK HEADQUARTERS HOSPITAL THRIPUNITHARA | Instrument receipt Date | 22.03.2022 |
| | | SRF No. | 075 |
| | | Calibration Date | 23.03.2022 |
| | | Next calibration date (Suggested By Customer) | 23.03.2023 |
| | | Certificate Issue date | 23.03.2022 |

Identification on DUC (Device Under Calibration)

| | | | |
|-------------------------|-----------------------|--------------------------|---------------------------------|
| Instrument Name | MICROPIPETTE | Make | ASTRAPETTE |
| Range | 20-200 µl | Model | - |
| Least count | 1 µl | Instrument Condition | OK |
| Serial No. | 236783 | Calibration Performed at | Mass & Volume Lab |
| ID No. | MP-01 | Location | - |
| Environmental Condition | Avg. Temperature (°C) | Avg. RH (%) | Avg. Atmospheric Pressure (hpa) |
| | 23.8 | 54 | 1009 |

Equipment & Master Used For calibration

| Instrument Used | Traceability | ID No: | Certificate No | Valid Upto | Sr No. | Accreditation No |
|------------------|--------------|------------|-------------------|------------|------------|------------------|
| Weighing Balance | UCSL | UCSL-WB-01 | UCSL/10-21/264_01 | 28.10.2022 | 0037905909 | CC-3102 |

Note: All Master instruments used for calibration are traceable to National /International Standard

| | | | |
|--------------------------------|----------------------------|-------------------------|---------------------|
| Method Used : | Gravimetric method | Discipline & Category : | Mechanical - Volume |
| Calibration Reference Standard | ISO-8655-6 & ISO /TR 20461 | Calibration Procedure | UCSL/SOP/01-MPT |

CALIBRATION RESULTS :-

| 1. Lower Volume 20 µl | | | | | | | | | | |
|----------------------------|--------|--------|--------|-------------------------|--------|---------------------------|--------|--------|--------|-------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mean Volume V |
| 19.97 | 19.81 | 20.15 | 21.03 | 20.19 | 20.05 | 19.99 | 19.97 | 19.95 | 20.09 | 20.12 |
| Systematic Error es µl : | | -0.12 | | Error Limits (± 1.6 µl) | | Random Error In sr µl : | | 0.34 | | Error Limits (± 0.6 µl) |
| Systematic Error es In % : | | -0.60 | | (± 8.0 %) | | Random Error In Cv In % : | | 1.69 | | (± 3.0 %) |
| 2. Middle Volume 100 µl | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mean Volume V |
| 100.27 | 100.64 | 100.63 | 100.09 | 100.24 | 100.35 | 100.47 | 100.35 | 100.55 | 100.28 | 100.38 |
| Systematic Error es µl : | | -0.38 | | Error Limits (± 1.6 µl) | | Random Error In sr µl : | | 0.18 | | Error Limits (± 0.6 µl) |
| Systematic Error es In % : | | -0.38 | | (± 1.6 %) | | Random Error In Cv In % : | | 0.18 | | (± 0.6 %) |
| 3. Nominal Volume 200 µl | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Mean Volume V |
| 200.95 | 200.67 | 200.27 | 200.71 | 200.41 | 200.80 | 200.85 | 200.57 | 200.24 | 200.82 | 200.63 |
| Systematic Error es µl : | | -0.63 | | Error Limits (± 1.6 µl) | | Random Error In sr µl : | | 0.25 | | Error Limits (± 0.6 µl) |
| Systematic Error es In % : | | -0.31 | | (± 0.8 %) | | Random Error In Cv In % : | | 0.12 | | (± 0.3 %) |

| | | |
|---------------------------------|-----|----|
| Decision Rule is Applied or Not | Yes | No |
| | | ✓ |

Conclusion /Remarks:

The Reported Uncertainty from 20 µl to 100 µl is 0.32 µl and at 200 µl is 1.05 µl at Coverage Factor K=2, which corresponds to a confidence level at approximately 95 %

1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.

2. This report is valid for Scientific & Industrial Purpose Only

3. This report should not be reproduced except in full without our prior permission in writing.

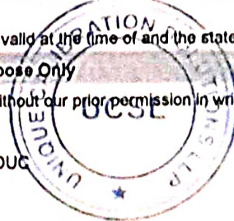
4. Calibration certificate without signature are not valid.

5. This Calibration Certificate relates only to the above DUC

6. DUC : Device under calibration

Calibrated by

Sony




 Issued / Approved By
 (APPU K MANI)
 Technical Director

Laboratory : 5/D3, EK Apartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021
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