

CALIBRATION CERTIFICATE

EQN/FT/7.8/01

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CRF No	: EQN/CRF/24050054	Date of Calibration	: 02/05/2024
Certificate No	: 2024-25/EQN/24050054-0001	Recom. Due Date	: 01/05/2025
ULR No	: CC276024000010676F		
Customer Details		Calibrated by	: R.NIVETHA
M/s. SIDDHA REGIONAL RESEARCH INSTITUTE,		Calibrated at	: Lab
Poojapura,		Date of Receipt	: 02/05/2024
Thiruvananthapuram - 695 012,		Date of Issue	: 25/05/2024
Kerala.		Cond. On Receipt	: Satisfactory
Details of Test Instrument:			
Description	: Micropipette	Model No.	: NA
Range	: 10 to 100µl	Serial No	: NA
Least Count	: 1µl	Identification No.	: SRRI/MP-01
Make	: LABOPETTE	Accuracy	: As per 8655-2
Working range	: --	Location	: LABORATORY
Details of Standard Used			
Name	Certificate No.	Valid upto	Traceability
Electronic Micro Balance	2023-24/EQN/2306104-64	21-Jun-24	EQN, CHENNAI.
Calibration Procedure No.	: EQN/CP/MS-03		
Reference Standard No.	: ISO 8655 & ISO/TR 20461		
Medium Used for Weighing	: Grade III-Water as per ISO:3696		
Density Correction factor (Z-Factor)	: 1.0048µl/mg		
Environmental Details	: Temperature : 25±2°C		Relative Humidity : 50±10 % RH
MECHANICAL CALIBRATION			
(Volume)			
Calibration Results			
No. of Measurements : 10			
Nominal Reading	Measured Mean Volume @ 27 °C	Systematic Error	Systematic Error Limit
µl	µl	µl	± µl
10	10.039	0.039	0.12
50	50.093	0.093	0.50
100	100.124	0.124	0.80
Uncertainty			
0.40			
Remarks			
1. The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor $k=2$			
2. The Above Results are within the maximum permissible Error			
END			

Signature valid

Digitally Signed by Equation Calibration Services Pvt. Ltd.
 Authorised By : YOGANATHAN KUPPAN
 Designation : Technical Manager
 Reason : Calibration Certificate
 Location : Chennai
 Date:2024-05-25 16:02:49+05:30



EQUATION CALIBRATION SERVICES PRIVATE LIMITED



No:5/3A, Poomagal Third Street, Ekkattuthangal, Ambal Nagar, Chennai - 32, Tamilnadu, India, Tel:91-9962084985, Email: enquiry@eqnservices.com Web:www.eqnservices.com

(This document is digitally signed on first page and does not require signature)

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EQN/FT/7.8/01

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CRF No	: EQN/CRF/24050054	Date of Calibration	: 02/05/2024	
Certificate No	: 2024-25/EQN/24050054-0002	Recom. Due Date	: 01/05/2025	
ULR No	: CC276024000010677F			
Customer Details		Calibrated by	: R.NIVETHA	
M/s. SIDDHA REGIONAL RESEARCH INSTITUTE,		Calibrated at	: Lab	
Poojapura,		Date of Receipt	: 02/05/2024	
Thiruvananthapuram - 695 012,		Date of Issue	: 25/05/2024	
Kerala.		Cond. On Receipt	: Satisfactory	
Details of Test Instrument:				
Description	: Micropipette	Model No.	: NA	
Range	: 10 to 100µl	Serial No	: NA	
Least Count	: 1µl	Identification No.	: SRR/MP-02	
Make	: ERBEPETTE	Accuracy	: As per 8655-2	
Working range	: --	Location	: LABORATORY	
Details of Standard Used				
Name	Certificate No.	Valid upto	Traceability	
Electronic Micro Balance	2023-24/EQN/2306104-64	21-Jun-24	EQN, CHENNAI.	
Calibration Procedure No.	: EQN/CP/MS-03			
Reference Standard No.	: ISO 8655 & ISO/TR 20461			
Medium Used for Weighing	: Grade III-Water as per ISO:3696			
Density Correction factor (Z-Factor)	: 1.0048µl/mg			
Environmental Details	: Temperature : 25±2°C		Relative Humidity : 50±10 % RH	
MECHANICAL CALIBRATION				
(Volume)				
Calibration Results				
No. of Measurements : 10				
Nominal Reading	Measured Mean Volume @ 27°C	Systematic Error	Systematic Error Limit	Uncertainty
µl	µl	µl	+ µl	+ µl
10	10.052	0.052	0.12	0.40
50	50.087	0.087	0.50	
100	100.135	0.135	0.80	
Remarks				
1. The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor $k=2$				
2. The Above Results are within the maximum permissible Error				
END				

Signature valid

 Digitally Signed by Equation Calibration Services Pvt Ltd.
 Authorised By : YOGANATHAN KUPPAN
 Designation : Technical Manager
 Reason : Calibration Certificate
 Location : Chennai
 Date: 2024-05-25 16:02:51+05:30

EQUATION CALIBRATION SERVICES PRIVATE LIMITED

 No:5/3A, Poomagal Third Street, Ekkattuthangal, Ambal Nagar, Chennai - 32, Tamilnadu, India, Tel:91-9962084985, Email: enquiry@eqnservices.com Web:www.eqnservices.com
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CC-3442

Certificate No : BMT/23-24/1259
 ULR No. : CC344224000001259F

SRF No: BMT/CAL/23-24

CALIBRATION CERTIFICATE

Customer Details	Details of DUC	
SIDDHA REGIONAL RESEARCH INSTITUTE, POOJAPURA, THIRUVANANTHAPURAM, KERALA-695012	Description	MICROPIPETTE
	Manufactured by	LABOPETTE
	Model	-
	Serial No.	-
	Identification No.	SRRI/MP-03
	Range	100-1000µL
	Location	LABORATORY

Environmental Conditions		Calibration Details	
Operating Temperature	26°C	Date of Receipt	02/05/2024
Humidity	55 %	Date of Calibration	02/05/2024
		Date of Issue	02/05/2024
		Rec. Due Date	01/05/2025
		Calibrated At	Laboratory 1 - Permanent Facility
		Cond. On Receipt	Satisfactory

Details of Calibration Standards

Name	Manufacturer/ SI No	Certificate No.	Valid up to	Traceability
Electronic Weighing Balance	AND, GR-202/ 14251938	2023-24/EQN/2309113-07	15-SEPT-2024	Equations Calibration Services, Chennai
Std. Operating Procedure : BMT/CWP/MECH001				

Calibrated by:

Gogila P
 Calibration Engineer



Authorized by:

Remy C.R
 Technical Manager





CC-3442

Certificate No : BMT/23-24/1259

ULR No. : CC344224000001259F

SRF No: BMT/CAL/23-24

MECHANICAL CALIBRATION

(Volume)

Parameter	Set Value(μl)	Measured Value(μl)	systematic Error(±μl)	Random Error(±μl)	Expanded Uncertainty (±μl)
Volume	100	100.26	0.26	0.14	1.15
	500	500.07	0.07	0.31	1.15
	1000	999.95	0.05	0.28	1.15

Remarks

- *DUC is defined as device under calibration.*
- *Measured value given was the average of 10 measurements.*
- *Master equipment used for calibration were calibrated from accredited laboratory & traceable to National & International standards.*
- *The calibration results reported are valid at the time of and under the stated conditions of the measurements.*
- *The calibration certificate shall not be reproduced except in full without written approval of Biomedical Techniques.*
- *The above results relate only to the item calibrated.*
- *The reported expanded uncertainty is calculated at 95% confidence level with coverage factor K=2.*
- *The calibration certificate shall not be utilized for any legal purpose produced in the court of law for which no responsibility will be associated to Biomedical Techniques.*

Calibrated by

Gogila P
Calibration Engineer



Authorized by

Remya C R
Technical manager

End of certificate