

CERTIFICATE OF CALIBRATION

FT-Q-25		Page 1 of 1	
ULR No. :	CC21442400001114F	Date of Issue :	15-02-2024
Certificate No. :	TVCSP/24/02/0215-01	Recom. Due Date :	13-02-2025
Date of Calibration :	14-02-2024	SRF No. :	0215
Customer Details :	M/s. Amster Speciality Laboratory Perumpadappa Puthanpalli.	Calibrated at :	On-Site
		Date of Receipt :	14-02-2024
		Cond. On Receipt :	Satisfactory
Details of Test Instrument:			
Description :	Centrifuge	Model No. :	Electra BL
Range :	Max 4000 RPM	Serial No. :	202301457-12
Least Count :	100 RPM	Identification No. :	CF-01
Make :	Peerless Euro	Accuracy :	As Per Manual
Working range :	-	Location :	Laboratory
Details of Standard Used :			
Name	Certificate No.	Valid upto	Calibrated at
Digital Tachometer	HT/CC/230830-12/001	30-Aug-24	CC-2151
Work Instruction :	WI-R-05		
Environmental Details :	Temperature: 25±5 °C	Relative Humidity:	40-70 % RH

MECHANICAL CALIBRATION

(Acceleration & Speed)

Calibration Results

S.No	DEVICE UNDER CALIBRATION	STANDARD INSTRUMENTS	DEVIATION	EXPANDED UNCERTAINTY
	RPM	RPM	RPM	%
1	1000	1010	-10	0.59
2	2000	2008	-8	0.31
3	3000	3009	-9	0.22
4	4000	4007	-7	0.17

Remarks:-

- Standard reading given was the average of 3 measurements
- The reported Expanded Uncertainty is calculated at 95.45 % C.L with coverage factor  $k=2$
- Masters are Traceable to SI Units.

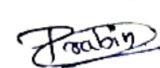

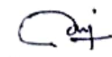
Calibrated by :

M. Arun Kumar  
(Calibration Engineer)



Authorised by :

D. Vetri Selvi  
(QM & TM)

CALIBRATION CERTIFICATE								
Certificate Number		: MES24/02/036-01			ULR Number		: CC254323000000204F	
Customer Details		: <b>AMSTER SPECIALITY LABORATORY, PERUMPADAPPA, PUTHENPALLI.</b>						
Date of Calibration		: 12/02/2024			SRF Number		: 036	
Next Calibration Due		: 11/02/2025			Date of Issue		: 12/02/2024	
DETAILS OF DEVICE UNDER CALIBRATION(DUC)								
Nomenclature		: Micropipette			Serial No.		: -	
Make / Model		: Labopette			ID No.		: P 1	
Equipment Condition		: Good			Resolution		: 0 µl	
Range		: 1000 µL			Location		: Laboratory	
DETAILS OF MASTER EQUIPMENT USED								
Nomenclature		: Electronic Precision Balance			Range		: 0 – 210 gm	
Make		: Boeco Germany			Readability		: 0.01/0.1 mg	
Model		: BBC-22			Serial No.		: 27104178	
Certificate No.		: TVSPL 23/10/1135-01			Calibration Due Date		: 02.10.2024	
ENVIRONMENTAL CONDITIONS								
Temperature(°C)		Relative Humidity (%)		Atmospheric Pressure (mbar)		Water Temperature(°C)		
26.7		56		1007		26.5		
CALIBRATION RESULTS								
Discipline		: Mechanical			Parameter		: Volume	
Sl. No.	Set Volume	Standard Value	Systematic Error	Acceptable Systematic Error	Random Error	Acceptable Random Error	Expanded Uncertainty	
	µl	µl	µl	± µl	µl	± µl	± µl	
1	1000	1001.44	-1.44	12.00	0.37	4.00	1.083	
<p>Notes: -</p> <ul style="list-style-type: none"> <li>The results in this certificate are only related to DUC submitted calibration and valid at the time of calibration under stated condition of measurements</li> <li>The measurement uncertainty is estimated at a confidence level of 95.45% with coverage factor k=2.</li> <li>Results in this certificate shall not be reproduced in partial or full without the written approval of the laboratory.</li> <li>Next calibration due date is mentioned as per customer requirement.</li> <li>Calibration certificate issued for scientific or industrial purpose only.</li> <li>Acceptable error limit is given as per ISO 8655-2:2002(E) Guidelines</li> <li>Calibration is carried out as per ISO 8655-6 Guidelines; MES work procedure: MES/WP/VOLUME.</li> </ul>								
Calibrated by  Prabin KP (Calibration Engineer)						Authorized Signatory  Binoj Thomas (Technical Manager)		








Cert No. CC-2543



# Medical Engineering & Services

**Things Beyond Thoughts**

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Visit us @www.mescalibration.com

CALIBRATION CERTIFICATE											
Certificate Number		: MES24/02/036-02			ULR Number		: CC25432300000205F				
Customer Details		: <b>AMSTER SPECIALITY LABORATORY, PERUMPADAPPA, PUTHENPALLI.</b>									
Date of Calibration		: 12/02/2024			SRF Number		: 036				
Next Calibration Due		: 11/02/2025			Date of Issue		: 12/02/2024				
DETAILS OF DEVICE UNDER CALIBRATION(DUC)											
Nomenclature		: Micropipette			Serial No.		: -				
Make / Model		: Labopette			ID No.		: P 2				
Equipment Condition		: Good			Resolution		: 10 µl				
Range		: 100 - 1000 µL			Location		: Laboratory				
DETAILS OF MASTER EQUIPMENT USED											
Nomenclature		: Electronic Precision Balance			Range		: 0 – 210 gm				
Make		: Boeco Germany			Readability		: 0.01/0.1 mg				
Model		: BBC-22			Serial No.		: 27104178				
Certificate No.		: TVSPL 23/10/1135-01			Calibration Due Date		: 02.10.2024				
ENVIRONMENTAL CONDITIONS											
Temperature(°C)		Relative Humidity (%)		Atmospheric Pressure (mbar)		Water Temperature(°C)					
26.5		57		1007		26.2					
CALIBRATION RESULTS											
Discipline		Mechanical		Parameter		Volume					
Sl. No.	Set Volume	Standard Value	Systematic Error	Acceptable Systematic Error	Random Error	Acceptable Random Error	Expanded Uncertainty				
	µl	µl	µl	± µl	µl	± µl	± µl				
1	100	100.25	-0.25	1.40	0.06	0.60	8.166				
2	500	501.88	-1.88	12.00	0.14	4.00	8.170				
3	1000	1003.95	-3.95	12.00	0.30	4.00	8.188				
Notes: -											
<ul style="list-style-type: none"> <li>The results in this certificate are only related to DUC submitted calibration and valid at the time of calibration under stated condition of measurements</li> <li>The measurement uncertainty is estimated at a confidence level of 95.45% with coverage factor k=2.</li> <li>Results in this certificate shall not be reproduced in partial or full without the written approval of the laboratory.</li> <li>Next calibration due date is mentioned as per customer requirement.</li> <li>Calibration certificate issued for scientific or industrial purpose only.</li> <li>Acceptable error limit is given as per ISO 8655-2:2002(E) Guidelines</li> <li>Calibration is carried out as per ISO 8655-6 Guidelines;MES work procedure: MES/WP/VOLUME.</li> </ul>											
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