


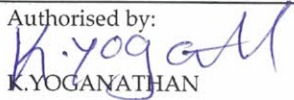
CALIBRATION CERTIFICATE

EQN/FT/7.8/01		Page 1 of 2	
CRF No.	: EQN/CRF/2309135	Date of Calibration	: 27-Sep-23
Certificate No	: 2023-24/EQN/2309135-01	Recom. Due Date	: 26-Sep-24
ULR No.	: CC276023000014697F		
Customer Details		Calibrated at	: Lab
M/s. GOVT.PRIMARY HEALTH CENTRE		Date of Receipt	: 27-Sep-23
Arisipalayam		Cond. On Receipt	: Satisfactory
Coimbatore.		Date of Issue	: 28-Sep-23
Details of UUC :			
Description	: Micropipette	Model	: Finnipette F3
Range	: 10 - 100 µl	Serial No	: RW05384
Least Count	: 0.2µl	Identification No.	: ---
Make	: Thermo Scientific	Accuracy	: As Per Manual
Working range	: --	Location	: ---
Details of Standard Used :			
Name	Certificate No.	Valid upto	Traceability
Electronic Micro Balance	2023-24/EQN/2306104-64	21-Jun-24	EQN, Chennai.
CP No.	: EQN/CP/MS-03	Reference Standard : ISO 8655-6	
Environmental Details	: Temperature : 25±2°C	Relative Humidity : 50±10 % RH	
MECHANICAL CALIBRATION			
(Volume)			
Calibration Results			
1. Lower Volume :	10 µl	No. of Measurements : 10	
9.981	9.951	10.061	10.041
10.001	10.011	9.890	9.961
10.011	9.920		
Mean Value :	9.983 µl		
Error Limits(±)			
Systematic Error :	-0.02 µl	0.12 µl	
Systematic Error :	-0.17 %	1.20 %	
Random Error :	0.05 µl	0.08 µl	
Random Error :	0.53 %	0.80 %	
Measurement Uncertainty :	± 0.37 µl		

Calibrated by :


R.NIVETHA
 (Sr.Calibration Engineer)


Authorised by:


K.YOGANATHAN
 (TM)

CALIBRATION CERTIFICATE

CRF No. :	EQN/CRF/2309135	Page 2 of 2
ULR No. :	CC276023000014697F	

MECHANICAL CALIBRATION				
(Volume)				
Calibration Results				
2. Middle Volume :	50	µl	No. of Measurements :	10
50.162	50.091		50.041	49.931
49.971	50.051		50.131	50.152
50.031	49.951			
Mean Value :	50.051	µl		
Error Limits(±)				
Systematic Error :	0.05	µl	0.50	µl
Systematic Error :	0.10	%	1.00	%
Random Error :	0.08	µl	0.20	µl
Random Error :	0.17	%	0.40	%
Measurement Uncertainty :		±	0.37	µl
3. Nominal Volume :	100	µl	No. of Measurements :	10
100.130	100.070		100.171	100.251
100.110	100.090		100.060	100.120
100.120	100.201			
Mean Value :	100.132	µl		
Error Limits(±)				
Systematic Error :	0.13	µl	0.80	µl
Systematic Error :	0.13	%	0.80	%
Random Error :	0.06	µl	0.30	µl
Random Error :	0.06	%	0.30	%
Measurement Uncertainty :		±	0.37	µl

Remarks

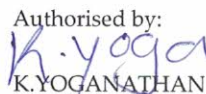
1. The reported Expanded Uncertainty is calculated at 95.45 % C.L with coverage factor $k=2$
2. The Above Results are within the maximum permissible Error

End of certificate

Calibrated by :


 R.NIVETHA
 (Sr. Calibration Engineer)

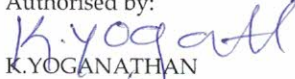


Authorised by:

 K.YOGANATHAN
 (TM)

CALIBRATION CERTIFICATE

EQN/FT/7.8/01		Page 1 of 2	
CRF No. :	EQN/CRF/2309135	Date of Calibration :	27-Sep-23
Certificate No :	2023-24/EQN/2309135-02	Recom. Due Date :	26-Sep-24
ULR No. :	CC276023000014698F		
Customer Details		Calibrated at :	
M/s. GOVT, PRIMARY HEALTH CENTRE		Lab	
Arisipalayam		Date of Receipt :	
Coimbatore.		27-Sep-23	
		Cond. On Receipt :	
		Satisfactory	
		Date of Issue :	
		28-Sep-23	
Details of Test Instrument:			
Description :	Micropipette	Model :	Finnpipette F3
Range :	100 - 1000 µl	Serial No :	RW02646
Least Count :	1µl	Identification No. :	--
Make :	Thermo Scientific	Accuracy :	As Per Manual
Working range :	--	Location :	---
Details of Standard Used :			
Name	Certificate No.	Valid upto	Traceability
Electronic Micro Balance	2023-24/EQN/2306104-64	21-Jun-24	EQN, Chennai.
CP No. :	EQN/CP/MS-03	Reference Standard : ISO 8655-6	
Environmental Details :	Temperature : 25±2°C	Relative Humidity : 50+9 50±10 % RH	
MECHANICAL CALIBRATION			
(Volume)			
Calibration Results			
1. Lower Volume :	100 µl	No. of Measurements :	10
<input type="text" value="100.072"/>	<input type="text" value="100.158"/>	<input type="text" value="100.204"/>	<input type="text" value="100.133"/>
<input type="text" value="100.334"/>	<input type="text" value="100.153"/>	<input type="text" value="100.063"/>	<input type="text" value="100.163"/>
<input type="text" value="100.174"/>	<input type="text" value="100.204"/>		
Mean Value :	100.166 µl		
Error Limits(±)			
Systematic Error :	0.17 µl	0.80 µl	
Systematic Error :	0.17 %	0.80 %	
Random Error :	0.08 µl	0.30 µl	
Random Error :	0.08 %	0.30 %	
Measurement Uncertainty :	±	0.37 µl	

 Calibrated by :

 R.NIVETHA
 (Sr.Calibration Engineer)

 Authorised by:

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CALIBRATION CERTIFICATE


CRF No. :	EQN/CRF/2309135	Page 2 of 2
ULR No. :	CC276023000014698F	
MECHANICAL CALIBRATION		
(Volume)		
Calibration Results		
2. Middle Volume :	500 μ l	No. of Measurements : 10
498.509	498.690	498.278
498.901	498.580	498.319
498.761	498.168	
Mean Value :	498.565 μ l	
Error Limits(\pm)		
Systematic Error :	-1.44 μ l	4.00 μ l
Systematic Error :	-0.29 %	0.80 %
Random Error :	0.25 μ l	1.50 μ l
Random Error :	0.05 %	0.30 %
Measurement Uncertainty :	\pm 0.37 μ l	
3. Nominal Volume :	1000 μ l	No. of Measurements : 10
998.613	998.905	998.262
999.106	998.623	998.734
999.377	999.106	999.447
Mean Value :	998.917 μ l	
Error Limits(\pm)		
Systematic Error :	-1.08 μ l	8.00 μ l
Systematic Error :	-0.11 %	0.80 %
Random Error :	0.37 μ l	3.00 μ l
Random Error :	0.04 %	0.30 %
Measurement Uncertainty :	\pm 0.37 μ l	

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 of certificate

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