

CALIBRATION CERTIFICATE

CRF No. : EQN/CRF/2202124
ULR No. : CC27602200003061F

MECHANICAL CALIBRATION (Volume)

Calibration Results

2. Middle Volume :	50 μ l	No. of Measurements		10
<input type="text" value="50.13"/>	<input type="text" value="50.15"/>	<input type="text" value="50.14"/>	<input type="text" value="50.20"/>	
<input type="text" value="50.18"/>	<input type="text" value="50.22"/>	<input type="text" value="50.15"/>	<input type="text" value="50.21"/>	
<input type="text" value="50.22"/>	<input type="text" value="50.16"/>			

Mean Value : μ l

		Error Limits(\pm)	
Systematic Error :	<input type="text" value="0.18"/> μ l	<input type="text" value="0.50"/> μ l	
Systematic Error :	<input type="text" value="0.36"/> %	<input type="text" value="1.00"/> %	
Random Error :	<input type="text" value="0.03"/> μ l	<input type="text" value="0.20"/> μ l	
Random Error :	<input type="text" value="0.06"/> %	<input type="text" value="0.40"/> %	

Measurement Uncertainty : \pm μ l

3. Nominal Volume :	100 μ l	No. of Measurements		10
<input type="text" value="100.17"/>	<input type="text" value="100.06"/>	<input type="text" value="100.15"/>	<input type="text" value="100.23"/>	
<input type="text" value="100.09"/>	<input type="text" value="100.14"/>	<input type="text" value="100.11"/>	<input type="text" value="100.15"/>	
<input type="text" value="100.27"/>	<input type="text" value="100.29"/>			

Mean Value : μ l

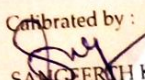
		Error Limits(\pm)	
Systematic Error :	<input type="text" value="0.17"/> μ l	<input type="text" value="0.80"/> μ l	
Systematic Error :	<input type="text" value="0.17"/> %	<input type="text" value="0.80"/> %	
Random Error :	<input type="text" value="0.08"/> μ l	<input type="text" value="0.30"/> μ l	
Random Error :	<input type="text" value="0.08"/> %	<input type="text" value="0.30"/> %	


Measurement Uncertainty : \pm μ l

Remarks

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

End of certificate

Calibrated by :

SANGEERTH K P
(Calibration Engineer)

Authorised by:

V RAIKARTHICK
(QM)



CALIBRATION CERTIFICATE

EQN/FT/7.8/01		Page 1 of 2	
CRF No.	EQN/CRF/2202124	Date of Calibration	09-Mar-22
Certificate No	2021-22/EQN/2202124-42	Recom. Due Date	08-Mar-23
ULR No.	CC2760220000030611		
Customer Details:			
THE CHIEF MEDICAL OFFICER			
Government Primary Health Centre		Calibrated at	Lab
ICTC Thudiyalur,		Date of Receipt	09-Mar-22
Coimbatore		Cond. On Receipt	Satisfactory
		Date of Issue	12-Mar-22
Details of Test Instrument:			
Description	Micropipette	Model No	1 micropipette 13
Range	10 - 100 µl	Serial No	RW01520
Least Count	0.2µl	Identification No	--
Make	Thermoscientific	Accuracy	As Per Manual
Working range	--	Location	ICTC
Details of Standard Used			
Name	Certificate No.	Valid upto	Traceability
Electronic SemiMicro Balance	2021-22/EQN/MASTER-256	07-May-22	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
<input type="text" value="10.03"/>	<input type="text" value="10.05"/>	<input type="text" value="10.01"/>	<input type="text" value="10.04"/>
<input type="text" value="10.03"/>	<input type="text" value="10.02"/>	<input type="text" value="10.11"/>	<input type="text" value="10.10"/>
<input type="text" value="10.03"/>	<input type="text" value="10.09"/>		
Mean Value :	10.1 µl		
Error Limits(±)			
Systematic Error :	0.05 µl	0.12 µl	
Systematic Error :	0.50 %	1.20 %	
Random Error :	0.04 µl	0.08 µl	
Random Error :	0.36 %	0.80 %	
Measurement Uncertainty :	± 0.36 µl		

Calibrated by :

 SANGEERTH K P
 (Calibration Engineer)

Authorised by

 V. RAJKARTHICK
 (QM)

