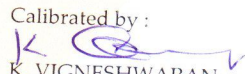
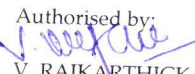


CALIBRATION CERTIFICATE

EQN/FT/7.8/01		Page 1 of 2	
CRF No. :	EQN/CRF/2112007	Date of Calibration :	01-Dec-21
Certificate No :	2021-22/EQN/2112007-15	Recom. Due Date :	30-May-22
ULR No. :	CC276021000011438F		
Customer Details		Calibrated at	
M/s. BIOLINE LABORATORY		Lab	
CKS Building 2nd Floor,		Date of Receipt : 29-Nov-21	
No. 21/829 Kallai Main Road,		Cond. On Receipt : Satisfactory	
Calicut - 673 003, Kerala		Date of Issue : 03-Dec-21	
Details of Test Instrument:			
Description :	Micropipette	Model No. :	--
Range :	20 - 200µl	Serial No :	311106
Least Count :	1µl	Identification No. :	BL/KALLAI/BC/PIP-02
Make :	P' fact	Accuracy :	As Per Manual
Working range :	--	Location :	Biochemistry
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		
Environmental Details	Temperature : 25±2°C		Relative Humidity : 50±10 % RH
MECHANICAL CALIBRATION			
(Volume)			
Calibration Results			
1. Lower Volume :	20 µl	No. of Measurements : 10	
<input type="text" value="19.92"/>	<input type="text" value="19.98"/>	<input type="text" value="20.15"/>	<input type="text" value="20.02"/>
<input type="text" value="19.99"/>	<input type="text" value="19.87"/>	<input type="text" value="20.05"/>	<input type="text" value="20.10"/>
<input type="text" value="19.90"/>	<input type="text" value="19.94"/>		
Mean Value :	<input type="text" value="19.99"/> µl		
Error Limits(±)			
Systematic Error :	-0.01 µl	0.20 µl	
Systematic Error :	-0.04 %	1.00 %	
Random Error :	0.09 µl	0.10 µl	
Random Error :	0.45 %	0.50 %	
Measurement Uncertainty :	±	0.36 µl	

Calibrated by :

 K. VIGNESHWARAN
 (Calibration Engineer)



Authorised by:

 V. RAJKARTHICK
 (QM)

CALIBRATION CERTIFICATE

Certificate No : 2021-22/EQN/2112007-15
 ULR No. : CC276021000011438F

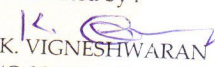
Page 2 of 2

MECHANICAL CALIBRATION					
(Volume)					
Calibration Results					
2. Middle Volume :		100 μ l		No. of Measurements : 10	
100.03	100.09	100.14	99.89		
99.97	100.01	99.82	99.84		
99.88	99.87				
Mean Value :		99.95 μ l			
Error Limits(\pm)					
Systematic Error :	-0.05 μ l	0.80 μ l			
Systematic Error :	-0.05 %	0.80 %			
Random Error :	0.11 μ l	0.30 μ l			
Random Error :	0.11 %	0.30 %			
Measurement Uncertainty :		\pm 0.36 μ l			
3. Nominal Volume :		200 μ l		No. of Measurements : 10	
200.46	199.65	200.24	200.09		
200.35	200.32	200.19	200.37		
200.28	200.11				
Mean Value :		200.21 μ l			
Error Limits(\pm)					
Systematic Error :	0.21 μ l	1.60 μ l			
Systematic Error :	0.10 %	0.80 %			
Random Error :	0.23 μ l	0.60 μ l			
Random Error :	0.11 %	0.30 %			
Measurement Uncertainty :		\pm 0.36 μ l			

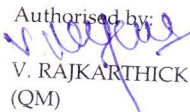
Remarks

- 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 :

 K. VIGNESHWARAN
 (Calibration Engineer)



Authorised by:

 V. RAJKARTHICK
 (QM)