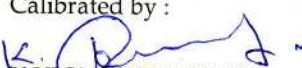
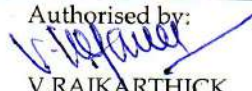


CALIBRATION CERTIFICATE

EQN/FT-7.8-01		Page 1 of 2	
ULR	: CC276021000002342F	Date of Issue	: 10-Apr-21
Certificate No.	: 2021-22/EQN/210419-03	Recom. Due Date	: 08-Apr-22
Date of Calibration	: 09-Apr-21	CRF No.	: 210419
Customer Details	: M/s. Rainbow Laboratories, No. 106-B, Gilgal Complex, Opp. VOC Ground, Arasan Bakery 1st Floor, Palayamkottai - 2.	Calibrated at	: Lab
		Date of Receipt	: 09-Apr-21
		Cond. On Receipt	: Satisfactory
Details of Test Instrument:			
Description	: Micropipette	Model No.	: --
Range	: 100µl to 1000µl	Serial No.	: --
Least Count	: 5µl	Id. No.	: RL/0002
Make	: Erba	Accuracy	: As per Manual
Location	: --		
Details of Standard Used			
Name	: Electronic Semi-Micro balance	Certificate No.	: 2020-21/EQN/MASTER-02
		Valid upto	: 13-May-21
		Traceability	: 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 :	100 µl	No. of Measurements :	10
<input type="text" value="99.74"/>	<input type="text" value="99.69"/>	<input type="text" value="99.74"/>	<input type="text" value="99.68"/>
<input type="text" value="99.63"/>	<input type="text" value="99.62"/>	<input type="text" value="99.66"/>	<input type="text" value="99.58"/>
<input type="text" value="99.99"/>	<input type="text" value="99.74"/>		
Mean Value :	<input type="text" value="99.71"/> µl		
Error Limits(±)			
Systematic Error :	-0.29 µl	0.80 µl	
Systematic Error :	-0.29 %	0.80 %	
Random Error :	0.11 µl	0.30 µl	
Random Error :	0.11 %	0.30 %	
Measurement Uncertainty :	± 0.36 µl		

Calibrated by :

K.VIGNESHWARAN
 (CALIBRATION ENGINEER)



Authorised by:

V.RAJKARTHICK
 QUALITY MANAGER

CALIBRATION CERTIFICATE

ULR : CC276021000002342F Page 2 of 2
 Certificate No. : 2021-22/EQN/210419-03

MECHANICAL CALIBRATION

(Volume)

Calibration Results

2. Middle Volume : 500 μ l No. of Measurements : 10

500.56	500.45	500.66	500.56
500.60	500.56	500.60	500.56
500.45	500.48		

Mean Value : 500.55 μ l

Error Limits(\pm)

Systematic Error :	0.55	μ l	4.00	μ l
Systematic Error :	0.11	%	0.80	%

Random Error :	0.06	μ l	1.50	μ l
Random Error :	0.01	%	0.30	%

Measurement Uncertainty : \pm 0.36 μ l

3. Nominal Volume : 1000 μ l No. of Measurements : 10

1000.93	1001.33	1000.99	1001.34
1000.90	999.02	999.33	1001.30
1000.99	1001.33		

Mean Value : 1000.75 μ l

Error Limits(\pm)

Systematic Error :	0.75	μ l	8.00	μ l
Systematic Error :	0.07	%	0.80	%

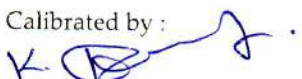
Random Error :	0.85	μ l	3.00	μ l
Random Error :	0.08	%	0.30	%

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 Micropipette was within the error limits

* End of Certificate *

Calibrated by :

 K.VIGNESHWARAN
 (CALIBRATION ENGINEER)



Authorised by:

 V. RAJKARTHICK
 QUALITY MANAGER