



**CERTIFICATE OF CALIBRATION**

FT-Q-25		Page 1 of 3	
ULR No.	: CC21442300003940F	Date of Issue	: 30-12-2023
Certificate No.	: TVCSPL 23/12/1029-01	Recom. Due Date	: 28-12-2024
Date of Calibration	: 29-12-2023	Customer Details	: M/s. Cluepath Diagnostics LLP, No.19A, New High School Road, VV Puram, Bangalore - 560004
SRF No.	: 1029	Calibrated at	: Lab
Date of Receipt	: 28-12-2023	Cond. On Receipt	: Satisfactory
<b>Details of Test Instrument:</b>			
Description	: Micropipette	Model No.	: Finnpipette F3
Range	: 5.0µL, 10µL, 20µL and 50 µL	Serial No.	: SW08600
Least Count	: 0.1 µL	Id. No.	: CPD/EQP/01
Make	: ThermoScientific	Accuracy	: As per Manual
Location	: Laboratory		
<b>Details of Standard Used</b>			
Name	Certificate No.	Valid upto	Traceability
Weighing Machine	TVCSPL 23/02/366-03	26-02-2024	CC-2144
Weighing Machine	TVCSPL 23/03/416-01	05-03-2024	CC-2144
Work Instruction	: WI-M-03		
Environmental Details	: Temperature : 25±2°C	Relative Humidity : 50±10 % RH	
<b>MECHANICAL CALIBRATION</b>			
(Volume)			
<b>Calibration Results</b>			
1. Lower Volume :	5 µl	No. of Measurements :	10
<input type="text" value="4.986"/>	<input type="text" value="4.977"/>	<input type="text" value="5.013"/>	<input type="text" value="5.111"/>
<input type="text" value="4.992"/>	<input type="text" value="5.025"/>	<input type="text" value="4.983"/>	<input type="text" value="5.034"/>
<input type="text" value="4.995"/>	<input type="text" value="5.004"/>		
Mean Value :	5.012 µl		
<b>Error Limits(±)</b>			
Systematic Error :	0.01 µl	0.13 µl	
Systematic Error :	0.24 %	2.50 %	
Random Error :	0.04 µl	0.08 µl	
Random Error :	0.79 %	1.50 %	
Measurement Uncertainty :	± 0.07 µl		

Calibrated by :  
**M. Jeevitha**  
M.Jeevitha  
(Calibration Engineer)



Authorised by:  
**Anand Manoharan**  
Mr. Anand Manoharan  
(QM & TM)

*...redefining the true value*





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<b>MECHANICAL CALIBRATION</b>		
(Volume)		
<b>Calibration Results</b>		
2. Middle Volume :	10 $\mu$ l	No. of Measurements : 10
<input type="text" value="9.914"/>	<input type="text" value="9.934"/>	<input type="text" value="9.965"/>
<input type="text" value="9.975"/>	<input type="text" value="9.834"/>	<input type="text" value="9.955"/>
<input type="text" value="9.995"/>	<input type="text" value="9.854"/>	<input type="text" value="10.025"/>
<input type="text" value="9.985"/>		<input type="text" value="9.985"/>
Mean Value :	9.944 $\mu$ l	
<b>Error Limits(<math>\pm</math>)</b>		
Systematic Error :	-0.06 $\mu$ l	0.120 $\mu$ l
Systematic Error :	-0.56 %	1.20 %
Random Error :	0.06 $\mu$ l	0.08 $\mu$ l
Random Error :	0.61 %	0.80 %
Measurement Uncertainty :	$\pm$ 0.07 $\mu$ l	
3. Middle Volume :	20 $\mu$ l	No. of Measurements : 10
<input type="text" value="19.908"/>	<input type="text" value="20.009"/>	<input type="text" value="19.928"/>
<input type="text" value="19.788"/>	<input type="text" value="20.009"/>	<input type="text" value="19.968"/>
<input type="text" value="20.019"/>	<input type="text" value="19.898"/>	<input type="text" value="19.848"/>
<input type="text" value="19.928"/>		<input type="text" value="19.928"/>
Mean Value :	19.930 $\mu$ l	
<b>Error Limits(<math>\pm</math>)</b>		
Systematic Error :	-0.07 $\mu$ l	0.20 $\mu$ l
Systematic Error :	-0.35 %	1.00 %
Random Error :	0.07 $\mu$ l	0.10 $\mu$ l
Random Error :	0.37 %	0.50 %
Measurement Uncertainty :	$\pm$ 0.15 $\mu$ l	

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 M.Jeevitha  
 (Calibration Engineer)



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<b>MECHANICAL CALIBRATION</b>		
(Volume)		
<b>Calibration Results</b>		
4. Middle Volume :	50 $\mu$ l	No. of Measurements : 10
<input type="text" value="49.892"/>	<input type="text" value="49.842"/>	<input type="text" value="49.832"/>
<input type="text" value="49.792"/>	<input type="text" value="49.933"/>	<input type="text" value="49.812"/>
<input type="text" value="49.872"/>	<input type="text" value="49.862"/>	<input type="text" value="49.922"/>
Mean Value :	49.858 $\mu$ l	
<b>Error Limits(<math>\pm</math>)</b>		
Systematic Error :	-0.14 $\mu$ l	0.50 $\mu$ l
Systematic Error :	-0.28 %	1.00 %
Random Error :	0.05 $\mu$ l	0.20 $\mu$ l
Random Error :	0.09 %	0.40 %
Measurement Uncertainty :	$\pm$ 0.15 $\mu$ l	

Remarks

1. The reported Expanded Uncertainty is calculated at 95.45 % C.L with coverage factor  $k=2$
2. The above Micropipette was within the error limits

\* End of Certificate \*

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