

### Calibration Certificate

Certificate No.: YEA(C)/ 231223A/I968/002  
ULR No. : CC222123000082856F

Dated : 30.12.2023

Calibrated for : ICTC, Thenzawl CHC  
Dist.: Serchhip, Mizoram,  
Pin - 796101.

Calibrated on.	Next Calibration Due On.	Page No.	No. of Pages
26.12.2023	26.12.2024	1	3

**Description of Instrument**

*Name* : Micro Pipette  
*Identification* : ICTC/THZ/MP-01  
*Range* : 40 - 200 µl  
*Least Count* : 1 µl  
*Make* : Labquest (Sl. No. : NI473799)

**Service Request No. / Order Reference** : 231223A/I968/001-002

**Receipt of Instrument** : 23.12.2023

**Location where calibration performed** : At permanent laboratory

**Applicable Specification of Instrument to be Calibrated** : Not Specified

**Condition of Instrument to be Calibrated** : Satisfactory

**Basis of Calibration** : Comparison method with reference to YEA/WIM-47

**Environmental Condition during Calibration** : *Temp.* : (23±4)°C *RH* : (50±10)%

**Equipment used for Calibration** : Standard Electronic Balance & Distilled Water

**Traceability** : To National Standard vide Certificate No:  
YEA(C)/231216/Y001/001 valid till 15.12.2024

**Measurement Uncertainty** : The figures are stated in the result at coverage factor  
 $k = 2$  corresponding to confidence probability of  
95% for normal distribution.

**Laboratory Identification** : Sticker is affixed for authentication of calibration.

The above Instrument/Equipment/Machine has been calibrated

The results are given in the page 2 to ..... 3 ...of the certificate.

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YEA(C)/F-08



CC-2221



# YEA

☎ : 033 2677 1411/1412, 2667 1909

## YOUNG ENGG. & CALIBRATION SERVICES PVT. LTD.

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E-mail : calibration@yeagroup.org ★ Visit us at : www.yeagroup.org

CIN : U74140WB2005PTC106389 ★ Toll Free Help Desk : 1800 345 9001

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Calibrated By : S. Das

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### Calibration Results

#### Mechanical Calibration

##### A) Calibration Result of Micro Pipette :

Sl. No.	DUC Value	Standard Value	Mean Value	Systematic Error (es)	Random Error (cv)	Measurement Uncertainty
	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\pm \mu$ l)
1	40	39.895	39.923	0.077	0.022	0.017
2		39.926				
3		39.913				
4		39.962				
5		39.935		Standard Limit Value as Per ISO 8655 - 2 : 2002 ( $\pm \mu$ l)		
6		39.905				
7		39.944				
8		39.918				
9		39.895		0.500	0.200	
10		39.936				

Sl. No.	DUC Value	Standard Value	Mean Value	Systematic Error (es)	Random Error (cv)	Measurement Uncertainty
	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\pm \mu$ l)
1	100	99.795	99.793	0.207	0.031	0.023
2		99.771				
3		99.755				
4		99.796		Standard Limit Value as Per ISO 8655 - 2 : 2002 ( $\pm \mu$ l)		
5		99.835				
6		99.762				
7		99.816				
8		99.755				
9		99.828		0.800	0.300	
10		99.816				

cont...3





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Sl. No.	DUC Value	Standard Value	Mean Value	Systematic Error (es)	Random Error (cv)	Measurement Uncertainty
	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\pm \mu$ l)
1	200	200.004	199.944	0.056	0.031	0.023
2		199.938				
3		199.923				
4		199.965				
5		199.979				
6		199.924				
7		199.915				
8		199.938				
9		199.951				
10		199.901				
				Standard Limit Value as Per ISO 8655 - 2 : 2002 ( $\pm \mu$ l)		
				1.600	0.600	

DUC : Device Under Calibration

REMARKS : The above Micro Pipette has been calibrated and the readings are tabulated above.

NOTES : This certificate refers to the results tabulated at the time of calibration only for the above mentioned item submitted for calibration and this should not be reproduced, other than in full except with prior written approval from the head of calibration laboratory.

Authorised By

  
A. Das

Manager Calibration

\*\*\* End of the Calibration Certificate \*\*\*

