



YEA

☎ : 033 2677 1411/1412, 2667 1909

YOUNG ENGG. & CALIBRATION SERVICES PVT. LTD.

Admn. Office & Lab : Kamardanga Road (Opp. Tarama Ashram), Ichapur, Howrah - 711 104

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

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

Calibration Certificate

Certificate No.: YEA(C)/ 230209A/I865/002

Dated : 11.02.2023

ULR No. : CC222123000012092F

Calibrated for : ICTC Thingsulthiah PHC

Thingsulthiah, Aizawl,

Pin - 796161.

Calibrated on.	Next Calibration Due On.	Page No.	No. of Pages
11.02.2023	11.02.2024	1	3

Description of Instrument

Name

: Micro Pipette

Identification

: TST/ICTC/MP-01

Range

: 20 - 200 µl

Least Count

: 0.2 µl

Make

: Accupipet (Sl. No. : V49760)

Service Request No. / Order Reference

: 230209A/I865/001-002

Receipt of Instrument

: 09.02.2023

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/WI/M-47

Environmental Condition during Calibration

: **Temp.** : (25±4)°C **RH** : (50±10)%

Equipment used for Calibration

: Standard Electronic Balance & Distilled Water

Traceability

: To National Standard vide Certificate No:
YEA(C)/220910/Y001/001 valid till 09.09.2023

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.



CC-2221

YEA(C)/F-08



Cont.....2



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Page 2 of 3 Pages

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
	(μ l)	(μ l)	(μ l)	(μ l)	(μ l)	($\pm \mu$ l)
1	20.0	19.995	20.017	-0.017	0.026	0.019
2		20.004				
3		20.047				
4		20.029				
5		20.034		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu$ l)		
6		19.996				
7		19.981				
8		20.045				
9		19.993		0.200	0.100	
10		20.047				

Sl. No.	DUC Value	Standard Value	Mean Value	Systematic Error (es)	Random Error (cv)	Measurement Uncertainty
	(μ l)	(μ l)	(μ l)	(μ l)	(μ l)	($\pm \mu$ l)
1	100.0	100.046	100.002	-0.002	0.032	0.024
2		99.989				
3		100.010				
4		99.989				
5		99.976		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu$ l)		
6		99.985				
7		99.967				
8		100.070				
9		99.997		0.800	0.300	
10		99.991				

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cont....3





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Page 3 of 3 Pages

Sl. No.	DUC Value	Standard Value	Mean Value	Systematic Error (es)	Random Error (cv)	Measurement Uncertainty
	(μl)	(μl)	(μl)	(μl)	(μl)	($\pm \mu\text{l}$)
1	200.0	200.071	200.047	-0.047	0.027	0.020
2		200.059				
3		200.049				
4		200.035		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu\text{l}$)		
5		200.073				
6		200.056				
7		200.082		1.600	0.600	
8		200.037				
9		200.006				
10		200.002				

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 ***

