

Calibration Certificate

Certificate No.: YEA(C)/ 230225A/1854/001
ULR No. : CC222123000013908F

Dated : 03.03.2023

Calibrated for : ICTC District Hospital, Champhai
Champhai, Pin - 796321.

Calibrated on.	Next Calibration Due On.	Page No.	No. of Pages
27.02.2023	27.02.2024	1	3

Description of Instrument

Name : Micro Pipette
Identification : CHP/ICTC/MP-01
Range : 20 - 200 μ l
Least Count : 1 μ l
Make : Labquest (Sl. No. : OD501470)

Service Request No. / Order Reference : 230225A/1854/001-002

Receipt of Instrument : 25.02.2023

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 \pm 4) $^{\circ}$ C *RH* : (50 \pm 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.





YEA

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YOUNG ENGG. & CALIBRATION SERVICES PVT. LTD.

Admn. Office & Lab : 44, Shahid Khudiram Bose Sarani, (formerly Kamardanga Road), Ichapur, Howrah - 711 104

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

Date: 03.03.2023

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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
	(μl)	(μl)	(μl)	(μl)	(μl)	($\pm \mu\text{l}$)
1	20	19.995	19.990	0.010	0.019	0.014
2		19.981				
3		19.975				
4		19.966				
5		20.008		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu\text{l}$)		
6		20.023				
7		20.014				
8		19.981		0.200	0.100	
9		19.969				
10		19.986				

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	100	99.897	99.925	0.075	0.060	0.044
2		99.868				
3		99.890				
4		99.901				
5		99.878		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu\text{l}$)		
6		99.852				
7		99.975				
8		99.970		0.800	0.300	
9		100.030				
10		99.989				

cont...3





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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	199.917	199.956	0.044	0.027	0.020
2		199.960				
3		199.941				
4		199.971		Standard Limit Value as Per ISO 8655 - 2 : 2002 ($\pm \mu\text{l}$)		
5		199.980				
6		199.951		1.600	0.600	
7		199.906				
8		199.989				
9		199.973				
10		199.977				

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 ***

