



# YEA

☎ : 033 2677 1412, 2667 1909, 82329 85881

Tele Fax : 033 2677 1411

## 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

### Calibration Certificate

Certificate No.: YEA(C)/ 230209A/1856/002

Dated : 22.02.2023

ULR No.: CC222123000012075F

Calibrated for : ICTC Darlawn PHC

Darlawn, Aizawl,

Pin - 796111.

Calibrated on.	Next Calibration Due On.	Page No.	No. of Pages
10.02.2023	10.02.2024	1	3

#### Description of Instrument

*Name* : Micro Pipette  
*Identification* : DL / ICTC / MP - 01  
*Range* : 20 - 200 µl  
*Least Count* : 0.2 µl  
*Make* : Accupipet ( Sl. No : U50142 )

Service Request No. / Order Reference : 230209A/1856/001-002

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.

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YEA(C)/F-08





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Date: 22.02.2023

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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
	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\mu$ l)	( $\pm \mu$ l)
1	20.0	19.892	19.947	0.053	0.037	0.027
2		19.885				
3		19.968				
4		19.985				
5		19.979		Standard Limit Value as Per ISO 8655 - 2 : 2002 ( $\pm \mu$ l)		
6		19.947				
7		19.966				
8		19.983				
9		19.947				
10		19.918				
				0.200	0.100	

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	100.0	99.709	99.733	0.267	0.038	0.028
2		99.739				
3		99.755				
4		99.673				
5		99.747		Standard Limit Value as Per ISO 8655 - 2 : 2002 ( $\pm \mu$ l)		
6		99.766				
7		99.787				
8		99.755				
9		99.726				
10		99.676				
				0.800	0.300	

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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	200.0	200.490	200.453	-0.453	0.038	0.028
2		200.482				
3		200.430				
4		200.423				
5		200.449				
6		200.504				
7		200.417				
8		200.413				
9		200.501				
10		200.416				
				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 \*\*\*

