



# Ultra Cal

# 42, 1st Floor, 60 Feet Main Road, Srinivasanagar,  
Pattegarapalya, Bengaluru, Karnataka - 560072  
info@ultra-cal.com



## CALIBRATION CERTIFICATE

**Customer Name & Address :** Sumukh Prayogalaya.,  
Shrinath Complex, 2nd Floor, Hubli

**Customer's Reference:** SRF No.: 1114 Dated : 01 Mar 2023

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
UC/23/1114-13	01 Mar 2023	28 Feb 2024	1 of 2

ULR No CC299623000001069F

Date of issue: 10 Mar 2023

### Details of device under calibration (DUC):

DUC : Micro Pipette	Calibration Procedure No. : UC/CAL/205
Make : AGAPPE	No. of Pages : 2
Range : 20-200µl	DUC Received : 01 Mar 2023
SI No. : SW27657	DUC Condition on receipt : Satisfactory
ID No. : µp-05	Cal At : Mass Lab.Ultracal

**Environmental Conditions:** Temp. : (23 ± 2)°C , Relative Hum. : (40 to 60)%, Atm. Pressure : 911.5mbar

### Standards used:

Sl. No.	Nomenclature	Make	Sl. No/ID No	Traceable to/ Cert. No.	Validity
1	Electronic Balance	Radwag	573977	LCGC / TC/8946/2022	04 July 2023

- Note:**
- 1.The Calibration Certificate relates only to the above DUC
  - 2.Publication or reproduction of this certificate in any form other than by complete set of the whole certificate & in the language, written, is not permitted without the written consent of Ultracal.
  - 3.Corrections/erasing, invalidate the Calibration certificate
  - 4.Calibration of the DUC are traceable to National standards/International Standards
  - 5.Any error in this certificate should be brought to our knowledge within 45 days from the date of this certificate.
  - 6.Results Reported are valid at the time of and under the stated conditions of measurements.
  - 7.The usage of NABL Symbol is as per NABL guidelines NABL 133

Calibrated By



Authorised By



Calibration Certificate Number

UC/23/1114-13

Page No: 2 of 2

ULR No: CC299623000001069F

Range : 20 - 200  $\mu\text{l}$

Increment : 0.2  $\mu\text{l}$

Sl. No.	Micropipette Set Volume in $\mu\text{l}$	Standard Balance Reading in g	Actual Calculated Volume @ 27°C in $\mu\text{l}$	Average Volume in $\mu\text{l}$	Systematic Error, $\pm$ in $\mu\text{l}$	Random Error, in $\pm$ in $\mu\text{l}$
1	20	0.01996	20.03	19.94	-0.06	0.09
2		0.01992	19.99			
3		0.01973	19.80			
4		0.01999	20.06			
5		0.01985	19.92			
6		0.01993	20.00			
7		0.01991	19.98			
8		0.01977	19.84			
9		0.01975	19.82			
10		0.01993	20.00			
11	100	0.10009	100.44	100.28	0.28	0.19
12		0.09961	99.96			
13		0.09991	100.26			
14		0.10019	100.54			
15		0.09978	100.13			
16		0.09989	100.24			
17		0.10011	100.46			
18		0.09997	100.32			
19		0.09968	100.03			
20		0.10007	100.42			
21	200	0.20083	201.54	201.34	1.34	0.22
22		0.20097	201.68			
23		0.20076	201.47			
24		0.20052	201.23			
25		0.20036	201.06			
26		0.20055	201.26			
27		0.20033	201.03			
28		0.20051	201.21			
29		0.20062	201.33			
30		0.20086	201.57			

Measurement Uncertainty :  $\pm$  0.30  $\mu\text{l}$  upto 100 $\mu\text{l}$

Conclusion / Remarks: 1.27  $\mu\text{l}$  above 100 $\mu\text{l}$

- 1 Measurement uncertainty is at confidence level 95% which corresponds to a coverage factor of  $k=2.26$
- 2 Calibration is performed as per ISO 8655 - 6 : 2002 ( E )
- 3 Gravimetric Method is adopted for calibration
- 4 Calibration points selected as per customer request.

Calibrated By



Authorised By