

Ultra Cal

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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/23/1114-09	01 Mar 2023	28 Feb 2024	1 of 2

ULR No.: CC299623000001065F

Date of Issue: 10 Mar 2023

Details of device under calibration (DUC):

DUC : Micro Pipette	Calibration Procedure No. : UC/CAL/205
Make : Vertex	No. of Pages : 2
Range : 5-50 μ l	DUC Received : 01 Mar 2023
SI No. : 122022022	DUC Condition on receipt : Satisfactory
ID No. : μ p-01	Cal At : Mass Lab.Ultracal

Environmental Conditions: Temp. : (23 \pm 2) $^{\circ}$ C , Relative Hum. : (40 to 60)%, Atm. Pressure: 911.7mbar

Standards used:

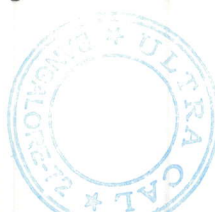
Sl. No.	Nomenclature	Make	Sl. No./ID No	Traceable to/ Cert. No.	Validity
1	Electronic Balance	Radweg	573977	LCGC / TC/8946/2022	04 July 2023

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


S. S. Srinivas



Authorised By





Calibration Certificate Number

UC/23/1114-09

Page No: 2 of 2

ULR No.: CC299623000001065F

Range : 5-50 μl

Increment : 1 μl

Sl. No.	Micropipette Set Volume in μl	Standard Balance Reading in g	Actual Calculated Volume @ 27°C in μl	Average Volume in μl	Systematic Error, \pm in μl	Random Error, in \pm in μl
1	10	0.01017	10.21	10.12	0.12	0.08
2		0.01003	10.07			
3		0.00997	10.01			
4		0.01020	10.24			
5		0.01005	10.09			
6		0.01011	10.15			
7		0.00996	10.00			
8		0.01013	10.17			
9		0.01004	10.08			
10		0.01016	10.20			
11	25	0.02516	25.25	25.25	0.25	0.14
12		0.02548	25.57			
13		0.02513	25.22			
14		0.02524	25.33			
15		0.02511	25.20			
16		0.02503	25.12			
17		0.02525	25.34			
18		0.02503	25.12			
19		0.02498	25.07			
20		0.02517	25.26			
21	50	0.04987	50.05	50.05	0.05	0.17
22		0.04967	49.84			
23		0.05011	50.29			
24		0.04976	49.94			
25		0.04989	50.07			
26		0.04974	49.92			
27		0.05003	50.21			
28		0.04967	49.84			
29		0.05011	50.29			
30		0.04988	50.06			

Measurement Uncertainty : \pm 0.30 μl

Conclusion / Remarks:

- 1 Measurement uncertainty is at confidence level 95% which corresponds to a coverage factor of k= 2.23
- 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



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