



TransCal

Measurement to Perfection...



CC-2231

Main Bld . Premises : Centenary Building (G . Flr), Door No . At : 100
W . Park Rd ., Between Sampighe Road And Margosa Rd .,
10th Crs ., Malleswaram, Bangalore City, Pin - 560003

ISO / IEC 17025 Accredited Calibration Lab by NABL

CALIBRATION CERTIFICATE

Customer Name & Add. : M/s. Christian Institute Of Health Sciences & Research
4th Mile, P.B No 31, P.O ARTC, Nagaland 797115

Customer's Reference :

SRF No. : TSC/21-22/1078

Dated : 20 Mar 2021

ULR.NO CC223121000032524F

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
TSC/21-22/1078-6	20 Mar 2021	20 Mar 2022	1 of 2

Details of device under calibration

Details of device under calibration		Transcal ID : TSC277093	
Nomenclature	: Micropipette	No. of Pages	: 2
Make	: Handypette	Cal Procedure No.	: TSC/CAL/610
Model/Range	: 0-2-10µl	DUC Received	: 20 Mar 2021
SI No.	: 111705445	DUC Condition on Receipt	: Satisfactory
ID No.	: --	Cal At	: Mechanical Lab

Environmental Conditions : Temperature in °C : 21.3

Humidity in RH % : 48.6

Standards used :

SI No.	Nomenclature	Make	Model	SI No/ID.No.	Certificate No.	Validity
1	Micro Balance	Sartorius	MC 21 S	16406121	TSC/20-21/INH/MECH-24-1	01 Mar 2022

Note :

1. This Calibration Certificate relates only to the above DUC & Reported results are valid at the time of and under the stated conditions of measurements.
2. Partial Publication/ reproduction of this Certificate in any form is not permitted without the written consent of Transcal.
3. Errors if any, in this Certificate shall be brought to notice within 45 days from the date of this Certificate
4. Measurement Uncertainty reported is at approximately 95 % confidence level with k=2; Units of Measurement results & Measurement Uncertainty are same as that of range selected - Unless otherwise indicated.
5. Calibration of the DUC are traceable to National/International Standards
6. Corrections/erasing, invalidate the Calibration Certificate- exception to the 'Final Page or Part' of this Report- provided for incorporation of additional data(To be filled by customer authorized signatory and not under calibration laboratory control).
7. In Result Sheets, 'Pass' indicates measured readings are within specification limit, 'Fail' Indicates measured readings are out of specification limit & '-' indicates no specification limit furnished.
8. Unless otherwise specified the Measurement Data reported is "As Found"-Without any adjustment .
9. Consider Model or Range whichever is applicable.
10. Nabl-133 guidelines are adopted for use of NABL symbol.

Calibrated By

Mansu

Rohit T
(Calibration Engineer)

Checked By

Ch

Chandrashekar
(Calibration Engineer)



Authorised By

Manjunath D J

Manjunath D J
(Lab In charge)



CAL CERT. NO : TSC/21-22/1078-6

ULR.NO : CC223121000032524F

Page : 2 of 2

Range : 0.2-10 μ l
 Increment : 0.1 μ l

Atmospheric Pressure : 912.3 mbar

Sl. No.	Micropipette Set Volume in μ l	Standard Balance Reading in g	Actual Calculated Volume @ 20°C in μ l	Average Volume in μ l	Systematic Error, \pm in %	Random Error, in \pm in %
1	1	0.001002	1.003	1.005	0.49	0.19
2		0.001001	1.002			
3		0.001003	1.004			
4		0.001002	1.003			
5		0.001003	1.004			
6		0.001005	1.006			
7		0.001004	1.005			
8		0.001006	1.007			
9		0.001007	1.008			
10		0.001005	1.006			
11	5	0.005006	5.011	5.008	0.17	0.04
12		0.005004	5.009			
13		0.005002	5.007			
14		0.005002	5.007			
15		0.005003	5.008			
16		0.005001	5.006			
17		0.005000	5.005			
18		0.005003	5.008			
19		0.005003	5.008			
20		0.005006	5.011			
21	10	0.010005	10.016	10.014	0.14	0.02
22		0.010004	10.015			
23		0.010003	10.014			
24		0.010005	10.016			
25		0.010005	10.016			
26		0.010006	10.017			
27		0.010002	10.013			
28		0.010002	10.013			
29		0.010004	10.015			
30		0.010001	10.012			

Measurement Uncertainty : \pm 0.04 μ l

Conclusion / Remarks:

- 1 Measurement uncertainty is at confidence level 95% which corresponds to a coverage factor of k = 2.00
- 2 Calibration is performed as per ISO 8655 - 6 : 2002 (E)
- 3 Gravimetric Method is adopted for calibration

Calibrated By

Rohit T
 (Calibration Engineer)

Checked By

Chandrashekar A
 (Calibration Engineer)



Authorised By

Manjunath D J
 (Lab In charge)



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CALIBRATION CERTIFICATE

Customer Name & Add. : M/s. Christian Institute Of Health Sciences & Research
4th Mile, P.B No 31, P.O ARTC, Nagaland 797115

Customer's Reference : SRF No. : TSC/21-22/1078 Dated : 20 Mar 2021

ULR.NO CC223121000032521F

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
TSC/21-22/1078-2	20 Mar 2021	20 Mar 2022	1 of 2

Details of device under calibration		Transcal ID : TSC277085	
Nomenclature	: Micropipette	No. of Pages	: 2
Make	: Thermo Scientific	Cal Procedure No.	: TSC/CAL/610
Model/Range	: 1-10 μ l	DUC Received	: 20 Mar 2021
SI No.	: HH48222	DUC Condition on Receipt	: Satisfactory
ID No.	: --	Cal At	: Mechanical Lab

Environmental Conditions : Temperature in $^{\circ}$ C : 21.3

Humidity in RH % : 48.6

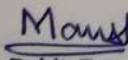
Standards used :

SI No.	Nomenclature	Make	Model	SI No./ID.No.	Certificate No.	Validity
1	Micro Balance	Sartorius	MC 21 S	16406121	TSC/20-21/INH/MECH-24-1	01 Mar 2022


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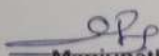
Calibrated By


Rohit T
(Calibration Engineer)

Checked By


Chandrashekar
(Calibration Engineer)

Authorised By


Manjunath D J
(Lab In charge)





CAL CERT. NO : TSC/21-22/1078-2

ULR.NO : CC223121000032521F

Page : 2 of 2

Range : 1-10 μ l
 Increment : 0.1 μ l

Atmospheric Pressure : 911.6 mbar

Sl. No.	Micropipette Set Volume in μ l	Standard Balance Reading in g	Actual Calculated Volume @ 20°C in μ l	Average Volume in μ l	Systematic Error, \pm in %	Random Error, in \pm in %
1	1	0.001006	1.007	1.004	0.41	0.16
2		0.001004	1.005			
3		0.001001	1.002			
4		0.001002	1.003			
5		0.001003	1.004			
6		0.001001	1.002			
7		0.001005	1.006			
8		0.001003	1.004			
9		0.001002	1.003			
10		0.001003	1.004			
11	5	0.005006	5.011	5.016	0.32	0.06
12		0.005008	5.013			
13		0.005007	5.012			
14		0.005010	5.015			
15		0.005012	5.017			
16		0.005011	5.016			
17		0.005013	5.018			
18		0.005014	5.019			
19		0.005012	5.017			
20		0.005014	5.019			
21	10	0.010006	10.017	10.016	0.16	0.03
22		0.010005	10.016			
23		0.010008	10.019			
24		0.010007	10.018			
25		0.010003	10.014			
26		0.010002	10.013			
27		0.010001	10.012			
28		0.010003	10.014			
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