



TransCal

Measurement to Perfection...



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 CC223121000032520F

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
TSC/21-22/1078-3	20 Mar 2021	20 Mar 2022	1 of 2

Details of device under calibration	Transcal ID
Nomenclature : Micropipette	: TSC277086
Make : Thermo Scientific	No. of Pages : 2
Model/Range : 20-200µl	Cal Procedure No. : TSC/CAL/610
SI No. : RW01759	DUC Received : 20 Mar 2021
ID No. : --	DUC Condition on Receipt : Satisfactory
	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	Electronic Weighing Balance	Mettler Toledo	AG 285	1120102251	TSC/20-21/INH/MECH-19-1	01 Feb 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

Rohit T
(Calibration Engineer)

Checked By

Chandrashekar A
(Calibration Engineer)

Authorised By

Manjunath D J
(Lab In charge)





CAL CERT. NO : TSC/21-22/1078-3

ULR.NO : CC223121000032520F

Page : 2 of 2

Range : 20-200 μ l
 Increment : 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	20	0.02006	20.08	20.07	0.35	0.10
2		0.02004	20.06			
3		0.02008	20.10			
4		0.02006	20.08			
5		0.02001	20.03			
6		0.02006	20.08			
7		0.02003	20.05			
8		0.02005	20.07			
9		0.02004	20.06			
10		0.02006	20.08			
11	100	0.10006	100.17	100.22	0.22	0.02
12		0.10010	100.21			
13		0.10012	100.23			
14		0.10013	100.24			
15		0.10013	100.24			
16		0.10012	100.23			
17		0.10015	100.26			
18		0.10012	100.23			
19		0.10011	100.22			
20		0.10010	100.21			
21	200	0.20015	200.37	200.36	0.18	0.01
22		0.20016	200.38			
23		0.20014	200.36			
24		0.20016	200.38			
25		0.20014	200.36			
26		0.20014	200.36			
27		0.20017	200.39			
28		0.20016	200.38			
29		0.20013	200.35			
30		0.20014	200.36			

Measurement Uncertainty : \pm 0.11 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

Mans

Rohit T
(Calibration Engineer)

Checked By

Ch

Chandrashekar
(Calibration Engineer)



Authorised By

Manjunath

Manjunath D J
(Lab In charge)



TransCal

Measurement to Perfection...



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 CC223121000032523F

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
TSC/21-22/1078-7	20 Mar 2021	20 Mar 2022	1 of 2

Details of device under calibration	Transcal ID
Nomenclature : Micropipette	: TSC277095
Make : P Fact	No. of Pages : 2
Model/Range : 100-1000µl	Cal Procedure No. : TSC/CAL/610
SI No. : 290628	DUC Received : 20 Mar 2021
ID No. : --	DUC Condition on Receipt : Satisfactory
	Cal At : Mechanical Lab

Environmental Conditions : Temperature in °C : 21.3

Humidity in RH % : 48.3

Standards used :

SI No.	Nomenclature	Make	Model	SI No./ID.No.	Certificate No.	Validity
1	Electronic Weighing Balance	Mettler Toledo	AG 285	1120102251	TSC/20-21/INH/MECH-19-1	01 Feb 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 A
(Calibration Engineer)

Authorised By

off

Manjunath D J
(Lab In charge)





CAL CERT. NO : TSC/21-22/1078-7

ULR.NO : CC223121000032523F

Page : 2 of 2

Range : 100-1000 μ l
 Increment : 5 μ l

Atmospheric Pressure : 912.2 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	100	0.10002	100.13	100.14	0.14	0.01
2		0.10006	100.17			
3		0.10002	100.13			
4		0.10003	100.14			
5		0.10002	100.13			
6		0.10004	100.15			
7		0.10005	100.16			
8		0.10003	100.14			
9		0.10002	100.13			
10		0.10003	100.14			
11	500	0.50003	500.57	500.61	0.12	0.00
12		0.50006	500.60			
13		0.50009	500.63			
14		0.50006	500.60			
15		0.50008	500.62			
16		0.50007	500.61			
17		0.50008	500.62			
18		0.50006	500.60			
19		0.50008	500.62			
20		0.50007	500.61			
21	1000	1.00003	1001.11	1001.13	0.11	0.00
22		1.00006	1001.14			
23		1.00007	1001.15			
24		1.00008	1001.16			
25		1.00003	1001.11			
26		1.00006	1001.14			
27		1.00008	1001.16			
28		1.00006	1001.14			
29		1.00004	1001.12			
30		1.00006	1001.14			

Measurement Uncertainty : \pm 1.92 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

Mans
 Rohit T
 (Calibration Engineer)

Checked By

Ch
 Chandrashekar A
 (Calibration Engineer)



Authorised By

Manjunath D J
 Manjunath D J
 (Lab In charge)