



UNIQUE CALIBRATION SOLUTIONS LLP

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Tel: 0484-4858563, 0484 - 7966984, 9971328563, 9061728563

E-mail: sales@uniquecalibration.com, website: www.uniquecalibration.com



NABL

C.No.: CC-3102

CALIBRATION CERTIFICATE											
ULR No		CC31022000001055F			CERTIFICATE No.		UCSL/11-20/092_01				
Customer Name & Address:					Instrument receipt Date		24.11.2020				
M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001					SRF No.		092				
					Calibration Date		25.11.2020				
					Next calibration date (Suggested By Customer)		25.11.2021				
					Certificate Issue date		25.11.2020				
Identification on UUC (Unit Under Calibration)											
Instrument Name		Micropipette			Make		BIOHIT				
Range		500 µl			Model		--				
Least count					Instrument Condition		OK				
Serial No.		17579636			Calibration Performed at		Mass & Volume Lab				
ID No.		MMH/LAB/PIP/3-006			Location		Lab				
Environmental Condition			Avg. Temperature (°C)		Avg. RH (%)		Avg. Atmospheric Pressure (hpa)				
			24.4		53		1010				
Equipment & Master Used For calibration											
Instrument Used	Traceability	ID No.	Certificate No	Valid Upto	Sr No.	Accreditation No					
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102					
Note: All Master instruments used for calibration are traceable to National /International Standard											
Method Used :					Gravimetric method						
Calibration Reference Standard					Calibration Procedure						
ISO-8655-6 & ISO /TR 20461					UCSL/SOP/01-MPT						
CALIBRATION RESULTS :-											
Nominal Volume		500 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
498.83	496.00	496.39	499.07	498.90	499.72	499.22	498.33	499.55	499.78	498.58	
Systematic Error es µl :			1.42		Error Limits (± 4.0 µl)		Random Error in sr µl :		1.33		Error Limits (± 1.5 µl)
Systematic Error es in % :			0.28		(± 0.8 %)		Random Error in Cv in % :		0.27		(± 0.3 %)
Conclusion /Remarks:											
The Reported Uncertainty of 500 µl is 1.05 µl at , Coverage Factor K=2, which corresponds to a confidence level at 95 %											
1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.											
2. This report is valid for Scientific & Industrial Purpose Only											
3. This report should not be reproduced except in full without our prior permission in writing.											
4. Calibration certificate without signature are not valid.											
5. UUC : Unit under calibration											
Calibrated by					Issued / Approved By (MANU MATHEW) (Technical Manager)						





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E-mail: sales@uniquecalibration.com, website: www.uniquecalibration.com



NABL
C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No	CC31022000001056F	CERTIFICATE No.	UCSL/11-20/092_02
Customer Name & Address:		Instrument receipt Date	24.11.2020
M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001		SRF No.	092
		Calibration Date	25.11.2020
		Next calibration date (Suggested By Customer)	25.11.2021
		Certificate Issue date	25.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name	Micropipette	Make	BIOHIT
Range	200 µl	Model	--
Least count		Instrument Condition	OK
Serial No.	12567664	Calibration Performed at	Mass & Volume Lab
ID No.	MMH/LAB/PIP/2-005	Location	Lab
Environmental Condition	Avg. Temperature (°C)	Avg. RH (%)	Avg. Atmospheric Pressure (hpa)
	24.4	52	1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /International Standard

Method Used : Gravimetric method

Calibration Reference Standard

ISO-8655-6 & ISO /TR 20461

Calibration Procedure

UCSL/SOP/01-MPT

CALIBRATION RESULTS :-

Nominal Volume		200 µl								
1	2	3	4	5	6	7	8	9	10	Mean Volume
201.04	200.60	200.88	200.98	201.59	200.81	200.94	200.76	200.90	200.66	200.92
Systematic Error es µl :		-0.92		Error Limits (± 1.6 µl)		Random Error in sr µl :		0.27		Error Limits (± 0.6 µl)
Systematic Error es in % :		-0.46		(± 0.8 %)		Random Error in Cv in % :		0.14		(± 0.3 %)

Conclusion /Remarks:

The Reported Uncertainty of 200 µl is 1.05 µl at, Coverage Factor K=2, which corresponds to a confidence level at 95 %

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- Calibration certificate without signature are not valid.
- UUC : Unit under calibration

Calibrated by

Issued / Approved By
(MANU MATHEW)
(Technical Manager)



Laboratory : 5/D3, EK Appartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021
Registered Office : Plot No. 611-P, Sector - 38, Gurgaon Haryana - 122001

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NABL
C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No : CC310220000001057F
Customer Name & Address: M/s MORRIS MATHIAS HOSPITAL
355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL,
TAMIL NADU-629001

CERTIFICATE No. : UC SL/11-20/092_03
Instrument receipt Date : 24.11.2020
SRF No. : 092
Calibration Date : 25.11.2020
Next calibration date
(Suggested By Customer) : 25.11.2021
Certificate Issue date : 25.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name : Micropipette
Range : 100 µl
Least count :
Serial No. : 12648969
ID No. : MMH/LAB/PIP/1-004
Make : BIOHIT
Model :
Instrument Condition : OK
Calibration Performed at : Mass & Volume Lab
Location : Lab
Environmental Condition : Avg. Temperature (°C) : 24.3
Avg. RH (%) : 52
Avg. Atmospheric Pressure (hpa) : 1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No.	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /International Standard

Method Used : Gravimetric method

Calibration Reference Standard : ISO-8655-6 & ISO /TR 20461

Calibration Procedure : UC SL/SOP/01-MPT

CALIBRATION RESULTS :-

Nominal Volume		100 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
99.91	100.20	99.70	99.94	99.78	99.73	99.97	99.84	99.92	99.99	99.89	
Systematic Error es µl :		0.11		Error Limits (± 0.8 µl)		Random Error in sr µl :		0.15		Error Limits (± 0.3 µl)	
Systematic Error es in % :		0.11		Error Limits (± 0.8 %)		Random Error in Cv in % :		0.15		Error Limits (± 0.3 %)	

Conclusion /Remarks:

The Reported Uncertainty of 100 µl is 0.32 µl at, Coverage Factor K=2, which corresponds to a confidence level at 95 %

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5. UUC : Unit under calibration

Calibrated by

Issued / Approved By
(MANU MATHEW)
(Technical Manager)



Laboratory : 5/D3, EK Appartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021
Registered Office : Plot No. 611-P, Sector - 38, Gurgaon Haryana - 122001

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NABL
C.No.: CC-3102

CALIBRATION CERTIFICATE											
ULR No	CC310220000001058F				CERTIFICATE No.	UCSL/11-20/092_04					
Customer Name & Address:				Instrument receipt Date		24.11.2020					
M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001				SRF No.		092					
				Calibration Date		25.11.2020					
				Next calibration date (Suggested By Customer)		25.11.2021					
				Certificate Issue date		25.11.2020					
Identification on UUC (Unit Under Calibration)											
Instrument Name	Micropipette			Make	DRAGON LAB						
Range	10 µl			Model	--						
Least count				Instrument Condition	OK						
Serial No.	YE175AB0091205			Calibration Performed at	Mass & Volume Lab						
ID No.	MMH/LAB/PIP/1-002			Location	Lab						
Environmental Condition		Avg. Temperature (°C)			Avg. RH (%)		Avg. Atmospheric Pressure (hpa)				
		24.3			52		1010				
Equipment & Master Used For calibration											
Instrument Used	Traceability	ID No.	Certificate No		Valid Upto	Sr No.	Accreditation No				
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01		30.10.2021	0037905909	CC-3102				
Note: All Master instruments used for calibration are traceable to National /International Standard											
Method Used :				Gravimetric method							
Calibration Reference Standard					Calibration Procedure						
ISO-8655-6 & ISO /TR 20461					UCSL/SOP/01-MPT						
CALIBRATION RESULTS :-											
Nominal Volume		10 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
10.02	10.20	10.12	10.17	10.10	10.14	10.19	10.00	10.13	9.98	10.11	
Systematic Error es µl :		-0.11			Error Limits (± 0.12 µl)		Random Error in sr µl :		0.08		Error Limits (± 0.08 µl)
Systematic Error es in % :		-1.09			(± 1.2 %)		Random Error in Cv in % :		0.79		(± 0.8 %)
Conclusion /Remarks:											
The Reported Uncertainty of 10 µl is 0.32 µl at , Coverage Factor K=2, which corresponds to a confidence level at 95 %											
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3. This report should not be reproduced except in full without our prior permission in writing.											
4. Calibration certificate without signature are not valid.											
5. UUC : Unit under calibration											
Calibrated by				Issued / Approved By (MANU MATHEW) (Technical Manager)							

Laboratory : 5/D3, EK Appartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021
Registered Office : Plot No. 611-P, Sector - 38, Gurgaon Haryana - 122001

UNIQUE CALIBRATION SOLUTIONS LLP - CALIBRATION & MACHINES



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C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No	: CC310220000001059F	CERTIFICATE No.	: UCSL/11-20/092_05
Customer Name & Address:		Instrument receipt Date	24.11.2020
M/s MORRIS MATHIAS HOSPITAL		SRF No.	092
355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL,		Calibration Date	25.11.2020
TAMIL NADU-629001		Next calibration date (Suggested By Customer)	25.11.2021
		Certificate Issue date	25.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name	Micropipette	Make	DRAGON LAB
Range	10-100 µl	Model	--
Least count	1 µl	Instrument Condition	OK
Serial No.	YE198ALO497701	Calibration Performed at	Mass & Volume Lab
ID No.	MMH/LAB/PIP/2-003	Location	Lab
Environmental Condition	Avg. Temperature (°C)	Avg. RH (%)	Avg. Atmospheric Pressure (hpa)
	24.2	50	1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /international Standard

Method Used : Gravimetric method

Calibration Reference Standard

ISO-8655-6 & ISO /TR 20461

Calibration Procedure

UCSL/SOP/01-MPT

CALIBRATION RESULTS :-

1. Lower Volume 10 µl										
1	2	3	4	5	6	7	8	9	10	Mean Volume V
10.17	10.51	10.43	10.07	10.45	10.26	10.18	10.11	10.21	10.08	10.25
Systematic Error es µl :		-0.25		Error Limits (± 0.8 µl)		Random Error in sr µl :		0.16		Error Limits (± 0.3 µl)
Systematic Error es in % :		-2.45		(± 8.0 %)		Random Error in Cv in % :		1.55		(± 3.0 %)
2. Middle Volume 50 µl										
1	2	3	4	5	6	7	8	9	10	Mean Volume V
50.02	50.29	50.42	50.63	50.55	50.51	50.56	50.14	50.08	50.12	50.33
Systematic Error es µl :		-0.33		Error Limits (± 0.8 µl)		Random Error in sr µl :		0.23		Error Limits (± 0.3 µl)
Systematic Error es in % :		-0.67		(± 1.6 %)		Random Error in Cv in % :		0.46		(± 0.6 %)
3. Nominal Volume 100 µl										
1	2	3	4	5	6	7	8	9	10	Mean Volume V
100.19	100.88	100.21	100.54	100.69	100.58	100.40	100.34	100.74	100.80	100.54
Systematic Error es µl :		-0.54		Error Limits (± 0.8 µl)		Random Error in sr µl :		0.25		Error Limits (± 0.3 µl)
Systematic Error es in % :		-0.54		(± 0.8 %)		Random Error in Cv in % :		0.24		(± 0.3 %)

Conclusion /Remarks:

The Reported Uncertainty from 10µl to 100 µl is 0.32µl at , Coverage Factor K=2, which corresponds to a confidence level at 95 %

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- UUC : Unit under calibration

Calibrated by

Issued / Approved By
(MANU MATHEW)
(Technical Manager)



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C.No.: CC-3102

CALIBRATION CERTIFICATE											
ULR No	CC310220000001037F				CERTIFICATE No.	UCSL/11-20/088_01					
Customer Name & Address:				Instrument receipt Date		09.11.2020					
M/s MORRIS MATHIAS HOSPITAL				SRF No.		088					
355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL,				Calibration Date		10.11.2020					
TAMIL NADU-629001				Next calibration date (Suggested By Customer)		10.11.2021					
				Certificate Issue date		14.11.2020					
Identification on UUC (Unit Under Calibration)											
Instrument Name	Micropipette			Make	Biohit						
Range	5-50 µl			Model	--						
Least count	0.5 µl			Instrument Condition	OK						
Serial No.	14627916			Calibration Performed at	Mass & Volume Lab						
ID No.	MMH/LAB/PIP/5-008			Location	Lab						
Environmental Condition		Avg. Temperature (°C)			Avg. RH (%)			Avg. Atmospheric Pressure (hpa)			
		24.3			51			1010			
Equipment & Master Used For calibration											
Instrument Used	Traceability	ID No.	Certificate No	Valid Upto	Sr No.	Accreditation No					
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102					
Note: All Master instruments used for calibration are traceable to National /International Standard											
Method Used :				Gravimetric method							
Calibration Reference Standard					Calibration Procedure						
ISO-8655-6 & ISO /TR 20461					UCSL/SOP/01-MPT						
CALIBRATION RESULTS :-											
1. Lower Volume 10 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
9.46	9.55	9.50	9.47	9.61	9.73	9.64	9.49	9.61	9.56	9.56	
Systematic Error es µl :			0.44		Error Limits (± 0.5 µl)		Random Error in sr µl :		0.09		Error Limits (± 0.2 µl)
Systematic Error es in % :			4.36		(± 5.0 %)		Random Error in Cv in % :		0.91		(± 2.0 %)
2. Middle Volume 25 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
24.63	24.58	24.61	24.57	24.64	24.72	24.63	24.54	24.60	24.66	24.62	
Systematic Error es µl :			0.38		Error Limits (± 0.5 µl)		Random Error in sr µl :		0.05		Error Limits (± 0.2 µl)
Systematic Error es in % :			1.53		(± 2.0 %)		Random Error in Cv in % :		0.21		(± 0.8 %)
3. Nominal Volume 50 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
49.88	49.59	49.66	50.02	50.21	49.83	49.84	49.89	50.05	49.70	49.87	
Systematic Error es µl :			0.13		Error Limits (± 0.5 µl)		Random Error in sr µl :		0.19		Error Limits (± 0.2 µl)
Systematic Error es in % :			0.26		(± 1.0 %)		Random Error in Cv in % :		0.38		(± 0.4 %)
Conclusion /Remarks:											
The Reported Uncertainty from 10µl to 50 µl is 0.32µl at Coverage Factor K=2, which corresponds to a confidence level at 95 %											
1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.											
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5. UUC : Unit under calibration											
Calibrated by				 Issued / Approved By (MANU MATHEW) (Technical Manager)							



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NABL
C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No :	CC310220000001038F	CERTIFICATE No. :	UCSL/11-20/088_02
Customer Name & Address:		Instrument receipt Date	09.11.2020
M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001		SRF No.	088
		Calibration Date	10.11.2020
		Next calibration date (Suggested By Customer)	10.11.2021
		Certificate Issue date	14.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name	Micropipette	Make	MICROPET
Range	1000 µl	Model	--
Least count		Instrument Condition	OK
Serial No.	--	Calibration Performed at	Mass & Volume Lab
ID No.	MMH/LAB/PIP/1-009	Location	Lab

Environmental Condition	Avg. Temperature (°C)	Avg. RH (%)	Avg. Atmospheric Pressure (hpa)
	24.1	51	1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /International Standard

Method Used : Gravimetric method

Calibration Reference Standard

ISO-8655-6 & ISO /TR 20461

Calibration Procedure

UCSL/SOP/01-MPT

CALIBRATION RESULTS :-

Nominal Volume		1000 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
1007.93	1006.93	1006.23	1008.74	1008.24	1006.53	1007.33	1007.63	1006.83	1006.33	1007.27	
Systematic Error es µl :				-7.27		Error Limits (± 8.0 µl)		Random Error in sr µl :		0.85	
Systematic Error es in % :				-0.73		Error Limits (± 0.8 %)		Random Error in Cv in % :		0.08	
										Error Limits (± 0.3 %)	

Conclusion /Remarks:

The Reported Uncertainty of 1000 µl is 1.05 µl at ,Coverage Factor K=2, which corresponds to a confidence level at 95 %

- The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.
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- Calibration certificate without signature are not valid.
- UUC : Unit under calibration

Calibrated by *[Signature]*

Issued / Approved By

 (MANU MATHEW)
 (Technical Manager)



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E-mail: sales@uniquecalibration.com, website: www.uniquecalibration.com

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NABL

C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No :	CC310220000001039F	CERTIFICATE No. :	UCSL/11-20/088_03
Customer Name & Address:	M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001	Instrument receipt Date	09.11.2020
		SRF No.	087
		Calibration Date	10.11.2020
		Next calibration date (Suggested By Customer)	10.11.2021
		Certificate Issue date	14.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name	Micropipette	Make	SARTORIUS
Range	1000 µl	Model	
Least count		Instrument Condition	OK
Serial No.	16589482	Calibration Performed at	Mass & Volume Lab
ID No.	MMH/LAB/PIP/1-001	Location	Lab
Environmental Condition	Avg. Temperature (°C)	Avg. RH (%)	Avg. Atmospheric Pressure (hpa)
	24.0	53	1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /International Standard

Method Used : Gravimetric method

Calibration Reference Standard

ISO-8655-6 & ISO /TR 20461

Calibration Procedure

UCSL/SOP/01-MPT

CALIBRATION RESULTS :-

Nominal Volume		1000 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume	✓
1005.35	1009.06	1008.36	1009.57	1006.25	1006.55	1005.45	1008.46	1006.75	1005.15	1007.10	
Systematic Error es µl :		-7.10		Error Limits		(± 8.0 µl)		Random Error in sr µl :		1.64	
Systematic Error es in % :		-0.71		Error Limits		(± 0.8 %)		Random Error in Cv in % :		0.16	
										Error Limits	
										(± 3.0 µl)	
										(± 0.3 %)	

Conclusion /Remarks:

The Reported Uncertainty of 1000 µl is 1.05 µl at Coverage Factor K=2, which corresponds to a confidence level at 95 %

1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.
2. This report is valid for Scientific & Industrial Purpose Only
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4. Calibration certificate without signature are not valid.
5. UUC : Unit under calibration

Calibrated by

Issued / Approved By
(MANU MATHEW)
(Technical Manager)





UNIQUE CALIBRATION SOLUTIONS LLP

An ISO/IEC-17025:2017 / ACCREDITED BY NABL - GOVT OF INDIA

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E-mail: sales@uniquecalibration.com, website: www.uniquecalibration.com

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NABL

C.No.: CC-3102

CALIBRATION CERTIFICATE

ULR No : CC310220000001040F	CERTIFICATE No. : UCSL/11-20/88_04
-----------------------------	------------------------------------

Customer Name & Address: M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001	Instrument receipt Date	09.11.2020
	SRF No.	088
	Calibration Date	10.11.2020
	Next calibration date (Suggested By Customer)	10.11.2021
	Certificate Issue date	14.11.2020

Identification on UUC (Unit Under Calibration)

Instrument Name	Micropipette	Make	Vertex
Range	20 -200 µl	Model	---
Least count	1 µl	Instrument Condition	OK
Serial No.	021500899	Calibration Performed at	Mass & Volume Lab
ID No.	MMH/LAB/PIP/1-010	Location	Lab

Environmental Condition	Avg. Temperature (°C)	Avg. RH (%)	Avg. Atmospheric Pressure (hpa)
	23.9	53	1010

Equipment & Master Used For calibration

Instrument Used	Traceability	ID No.	Certificate No	Valid Upto	Sr No.	Accreditation No
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102

Note: All Master instruments used for calibration are traceable to National /International Standard

Method Used : Gravimetric method

Calibration Reference Standard

ISO-8655-6 & ISO /TR 20461

Calibration Procedure

UCSL/SOP/01-MPT

CALIBRATION RESULTS :-

1. Lower Volume 20 µl

1	2	3	4	5	6	7	8	9	10	Mean Volume V
20.76	20.78	20.36	20.89	20.64	20.48	20.50	20.72	20.58	20.64	20.64
Systematic Error es µl : -0.64			Error Limits (± 1.6µl)			Random Error in sr µl : 0.16			Error Limits (± 0.6µl)	
Systematic Error es in % : -3.18			Error Limits (± 8.0%)			Random Error in Cv in % : 0.78			Error Limits (± 3.0%)	

2. Middle Volume 100 µl

1	2	3	4	5	6	7	8	9	10	Mean Volume V
100.51	100.40	100.40	100.01	99.68	100.44	99.77	100.25	100.31	99.72	100.15
Systematic Error es µl : -0.15			Error Limits (± 1.6µl)			Random Error in sr µl : 0.33			Error Limits (± 0.6 µl)	
Systematic Error es in % : 0.15			Error Limits (± 1.6%)			Random Error in Cv in % : 0.32			Error Limits (± 0.6%)	

3. Nominal Volume 200 µl

1	2	3	4	5	6	7	8	9	10	Mean Volume V
200.73	200.02	199.85	199.96	201.13	200.59	200.98	200.89	200.09	200.26	200.45
Systematic Error es µl : -0.45			Error Limits (± 1.6 µl)			Random Error in sr µl : 0.47			Error Limits (± 0.6 µl)	
Systematic Error es in % : -0.23			Error Limits (± 0.8%)			Random Error in Cv in % : 0.23			Error Limits (± 0.3%)	

Conclusion /Remarks:

The Reported Uncertainty from 20µl to 100 µl is ± 0.32µl & from 100µl to 200µl is 1.05 µl at Coverage Factor K=2, which corresponds to a confidence level at 95 %

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- UUC : Unit under calibration

Calibrated by

[Signature]

Issued / Approved By
(MANU MATHEW)
(Technical Manager)

Laboratory : 5/D3, EK Appartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021
Registered Office : Plot No. 611-P, Sector - 38, Gurgaon Haryana - 122001



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C.No.: CC-3102

CALIBRATION CERTIFICATE										
ULR No :		CC31022000001041F				CERTIFICATE No. :		UCSL/11-20/088_05		
Customer Name & Address:					Instrument receipt Date		09.11.2020			
M/s MORRIS MATHIAS HOSPITAL 355, KP ROAD, Dr MATHIAS NAGER, NAAGERCOIL, TAMIL NADU-629001					SRF No.		088			
					Calibration Date		10.11.2020			
					Next calibration date (Suggested By Customer)		10.11.2021			
					Certificate Issue date		14.11.2020			
Identification on UUC (Unit Under Calibration)										
Instrument Name		Micropipette			Make		BIOHIT			
Range		20 µl			Model		PROLINE			
Least count		--			Instrument Condition		OK			
Serial No.		12547303			Calibration Performed at		Mass & Volume Lab			
ID No.		MMH/LAB/PIP/4-007			Location		Lab			
Environmental Condition			Avg. Temperature (°C)		Avg. RH (%)		Avg. Atmospheric Pressure (hpa)			
			23.8		51		1010			
Equipment & Master Used For calibration										
Instrument Used	Traceability	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No				
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-20/085_01	30.10.2021	0037905909	CC-3102				
Note: All Master instruments used for calibration are traceable to National /International Standard										
Method Used :					Gravimetric method					
Calibration Reference Standard					Calibration Procedure					
ISO-8655-6 & ISO /TR 20461					UCSL/SOP/01-MPT					
CALIBRATION RESULTS :-										
1. Lower Volume 20 µl										
1	2	3	4	5	6	7	8	9	10	Mean Volume ∇
20.29	20.17	20.12	20.10	20.04	20.30	20.23	20.29	20.10	20.09	20.17
Systematic Error es µl :		-0.17		Error Limits		Random Error in sr µl :		0.10		Error Limits
Systematic Error es in % :		-0.86		(± 0.2 µl)		Random Error in Cv in % :		0.48		(± 0.1 µl)
				(± 1.0 %)						(± 0.5 %)
Conclusion /Remarks:										
The Reported Uncertainty of 20 µl 0.32 µl at Coverage Factor K=2, which corresponds to a confidence level at 95 %										
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