



UNIQUE
CALIBRATION & MACHINES

UNIQUE CALIBRATION SOLUTIONS LLP

An ISO/IEC-17025:2017 / ACCREDITED BY NABL

Tel: 0484-4858563, 0484 - 7966984, 9971328563, 9061728563, 9778197603

E-mail: info@uniquecalibration.co.in, website: www.uniquecalibration.co.in



CC-3102

UID NO. : 1071

CALIBRATION CERTIFICATE												
ULR NO :	CC310222000002878F				CERTIFICATE No. :	UCSL/09-22/285_01						
Customer Name & Address:				Instrument receipt Date			01.09.2022					
M/s. MDC X RAYS ECG & LABORATORY OPP ALFALAH MASJID, CLUBKUNNU ROAD MANANTHAVADY ,670645				SRF No.			285					
				Calibration Date			02.09.2022					
				Next calibration due (As per customer request)			02.09.2023					
				Certificate Issue date			07.09.2022					
Identification on DUC (Device Under Calibration)												
Instrument Name	MICROPIPETTE			Make	LABSYSTEMS							
Range	200-1000	µl		Model	--							
Least count	5 µl			Instrument Condition	OK							
Serial No.	C65357			Calibration Performed at	Mass & Volume Lab							
ID No.	MP-01			Location	--							
Environmental Condition		Avg. Temperature (°C)			Avg. RH (%)			Avg. Atmospheric Pressure (hpa)				
		24.2			57			1010				
Equipment & Master Used For calibration												
Instrument Used	Calibrated By	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No						
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-21/264_01	28.10.2022	0037905909	CC-3102						
Method Used :				Gravimetric method			Discipline & Category :				Mechanical - Volume	
Calibration Reference Standard				Calibration Procedure								
ISO-8655-6 & ISO /TR 20461				UCSL/SOP/01-MPT								
CALIBRATION RESULTS @27°C:-												
1. Lower Volume 200 µl												
1	2	3	4	5	6	7	8	9	10	Mean Volume V		
193.86	194.11	194.11	194.21	194.12	194.14	194.11	194.24	194.11	194.22	194.12		
Systematic Error es µl :			5.88		Error Limits (± 8 µl)			Random Error in sr µl :		0.11	Error Limits (± 3.0 µl)	
Systematic Error es in % :			2.94		(± 4.0 %)			Random Error in Cv in % :		0.05		(± 1.50 %)
2. Middle Volume 500 µl												
1	2	3	4	5	6	7	8	9	10	Mean Volume V		
502.34	502.21	502.17	502.16	501.19	502.09	502.18	502.33	502.28	501.85	502.08		
Systematic Error es µl :			-2.08		Error Limits (± 8 µl)			Random Error in sr µl :		0.34	Error Limits (± 3.0 µl)	
Systematic Error es in % :			-0.42		(± 1.6 %)			Random Error in Cv in % :		0.07		(± 0.6 %)
3. Nominal Volume 1000 µl												
1	2	3	4	5	6	7	8	9	10	Mean Volume V		
1006.15	1005.99	1005.71	1003.73	1002.29	1005.56	1005.61	1005.46	1005.61	1005.49	1005.16		
Systematic Error es µl :			-5.16		Error Limits (± 8.0 µl)			Random Error in sr µl :		1.20	Error Limits (± 3.0 µl)	
Systematic Error es in % :			-0.52		(± 0.8 %)			Random Error in Cv in % :		0.12		(± 0.3 %)
Decision Rule is Applied or Not									Yes	No		
										✓		
Conclusion /Remarks:												
The Reported Uncertainty <u>Is 1.05 µl</u> at ,Coverage Factor K=2, which corresponds to a confidence level at approximately 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. All the measurements are traceable to SI units through unbroken chain of calibration from the competent laboratories as per ISO/IEC/17025 standard requirements.												
6. This Calibration Certificate relates only to the above DUC												
7. DUC : Device under calibration												
Calibrated by											Issued / Approved By (APPU K MANI) Technical Director	

5/D3, EK Apartments, Model engineering college road Thrikkakara, Edappally, Cochin, Kerala-682021

SALES ★ SPARES ★ SERVICE ★ TESTING ★ CALIBRATION ★ MODERNIZATION





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CC-3102

CALIBRATION CERTIFICATE						UID NO. : 1072					
ULR NO : CC31022200002879F			CERTIFICATE No. :			UCSL/09-22/285_02					
Customer Name & Address:						Instrument receipt Date			01.09.2022		
M/s. MDC X RAYS ECG & LABORATORY OPP ALFALAH MASJID, CLUBKUNNU ROAD MANANTHAVADY ,670645						SRF No.			285		
						Calibration Date			02.09.2022		
						Next calibration due (As per customer request)			02.09.2023		
						Certificate Issue date			07.09.2022		
Identification on DUC (Device Under Calibration)											
Instrument Name		MICROPIPETTE				Make		AGAPPE			
Range		20-200 µl				Model		MISPA-J2			
Least count		1 µl				Instrument Condition		OK			
Serial No.		LW03831				Calibration Performed at		Mass & Volume Lab			
ID No.		MP-03				Location		--			
Environmental Condition			Avg. Temperature (°C)			Avg. RH (%)			Avg. Atmospheric Pressure (hpa)		
			24.0			57			1010		
Instrument Used		Calibrated By		ID No:		Certificate No		Valid Upto		Sr No.	
Weighing Balance		UCSL		UCSL-WB-01		UCSL/10-21/264_01		28.10.2022		0037905909	
Method Used : Gravimetric method						Discipline & Category : Mechanical - Volume					
Calibration Reference Standard						Calibration Procedure					
ISO-8655-6 & ISO /TR 20461						UCSL/SOP/01-MPT					
CALIBRATION RESULTS @ 27 °C :-											
1. Lower Volume 20 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume √	
19.24	18.29	19.24	18.34	19.30	19.24	18.34	19.31	19.34	18.34	18.90	
Systematic Error es µl :				1.10		Error Limits (± 1.6 µl)		Random Error in sr µl :		0.49	
Systematic Error es in % :				5.51		(± 8.0 %)		Random Error in Cv in % :		2.59	
Error Limits		Random Error in sr µl :		Error Limits		Random Error in Cv in % :		Error Limits			
(± 1.6 µl)		0.45		(± 0.6 µl)		0.45		(± 0.6 µl)			
(± 8.0 %)		0.45		(± 1.6 %)		0.45		(± 0.6 %)			
2. Middle Volume 100 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume √	
98.57	99.44	100.32	99.93	99.35	99.53	99.61	99.56	99.78	99.54	99.56	
Systematic Error es µl :				0.44		Error Limits (± 1.6 µl)		Random Error in sr µl :		0.45	
Systematic Error es in % :				0.44		(± 1.6 %)		Random Error in Cv in % :		0.45	
Error Limits		Random Error in sr µl :		Error Limits		Random Error in Cv in % :		Error Limits			
(± 1.6 µl)		0.45		(± 0.6 µl)		0.45		(± 0.6 µl)			
(± 1.6 %)		0.45		(± 1.6 %)		0.45		(± 0.6 %)			
3. Nominal Volume 200 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume √	
201.03	200.89	201.27	201.66	200.85	200.80	200.68	201.82	201.44	201.19	201.16	
Systematic Error es µl :				-1.16		Error Limits (± 1.6 µl)		Random Error in sr µl :		0.39	
Systematic Error es in % :				-0.58		(± 0.8 %)		Random Error in Cv in % :		0.19	
Error Limits		Random Error in sr µl :		Error Limits		Random Error in Cv in % :		Error Limits			
(± 1.6 µl)		0.39		(± 0.6 µl)		0.19		(± 0.6 µl)			
(± 0.8 %)		0.19		(± 0.8 %)		0.19		(± 0.3 %)			
Decision Rule is Applied or Not						Yes			No		
									✓		
Conclusion /Remarks:											
The Reported Uncertainty from 20 µl to 100 µl is 0.32µl and at 200 µl is 1.05 µl at ,Coverage Factor K=2,which corresponds to a confidence level at approximately 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. This Calibration Certificate relates only to the above DUC											
6. All the measurements are traceable to SI units through unbroken chain of calibration from the competent laboratories as per ISO/IEC/17025 standard requirements.											
7. DUC : Device under calibration											
Calibrated by						Issued / Approved By (APPU K MANI) (Technical Director)					

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CC-3102

UID NO. : 1073

CALIBRATION CERTIFICATE											
ULR NO :		CC310222000002880F			CERTIFICATE No. :		UCSL/09-22/285_03				
Customer Name & Address:					Instrument receipt Date			01.09.2022			
M/s. MDC X RAYS ECG & LABORATORY OPP ALFALAH MASJID, CLUBKUNNU ROAD MANANTHAVADY ,670645					SRF No.			285			
					Calibration Date			02.09.2022			
					Next calibration due (As per customer request)			02.09.2023			
					Certificate Issue date			07.09.2022			
Identification on DUC (Device Under Calibration)											
Instrument Name		MICROPIPETTE			Make		DRAGON LAB				
Range		1000 µl			Model		--				
Least count		--			Instrument Condition		OK				
Serial No.		E17AAG0038681			Calibration Performed at		Mass & Volume Lab				
ID No.		MP-02			Location		--				
Environmental Condition			Avg. Temperature (°C)		Avg. RH (%)		Avg. Atmospheric Pressure (hpa)				
			23.7		54		1009				
Equipment & Master Used For calibration											
Instrument Used		Calibrated By	ID No:	Certificate No		Valid Upto	Sr No.		Accreditation No		
Weighing Balance		UCSL	UCSL-WB-01	UCSL/10-21/264_01		28.10.2022	0037905909		CC-3102		
Method Used : Gravimetric method					Discipline & Category : Mechanical - Volume						
Calibration Reference Standard					Calibration Procedure						
ISO-8655-6 & ISO /TR 20461					UCSL/SOP/01-MPT						
CALIBRATION RESULTS @27°C:-											
1. Nominal Volume		1000 µl									
1	2	3	4	5	6	7	8	9	10	Mean Volume	
999.74	999.07	1002.18	1002.69	1003.38	1003.73	1001.20	1002.28	1003.39	1003.68	1002.13	
Systematic Error es µl :			-2.13		(± 8.0 µl)		Random Error in sr µl :			1.65	Error Limits (± 3.0 µl)
Systematic Error es in % :			-0.21		(± 0.8 %)		Random Error in Cv in % :			0.16	Error Limits (± 0.3 %)
Decision Rule is Applied or Not							Yes		No		
									✓		
Conclusion /Remarks:											
The Reported Uncertainty at 1000 µl is 1.05 µl at Coverage Factor K=2, which corresponds to a confidence level at approximately 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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5. All the measurements are traceable to SI units through unbroken chain of calibration from the competent laboratories as per ISO/IEC/17025 standard requirements.											
6. This Calibration Certificate relates only to the above DUC											
7. DUC : Device under calibration											
Calibrated by							Issued / Approved By				
							(APPU K MANI) Technical Director				

