



**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No: FM/22

**CALIBRATION CERTIFICATE OF:**  
Centrifuge

CALIBRATION CERTIFICATE NO.: EMC2022-KOL-00006667 ULR NO.: CC214722000004330P Page: 1/1

1.0 ISSUED TO: CPL DIAGNOSTIC PRIVATE LIMITED  
CZ-8, CANAL S RD, METROPOLITON CO-OPERATIVE-  
HOUSING SOCIETY LIMITED,  
KOLKATA - 700105

1.1 Service Request / Order No.: --

Description identification of item to be calibrated:					
i	Name:	Centrifuge	ii	Code No.:	--
iii	Sl. No.:	ZDFN-15804	iv	Make:	REMI
v	Model / Type No.:	R-8C	vi	Range:	As Per Calibration Result
vii	Sensor:	--	viii	Resolution:	10 rpm 1 min
ix	Location	Heamatology Lab			

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit: Not Specified

1.4 Date of receipt of item: 11-Feb-2022 1.5 Date of calibration: 11-Feb-2022

1.6 Recommended date for next calibration: 11-Feb-2023 1.7 Frequency of calibration: 12 months

1.8(a) Environmental condition during calibration  
Temperature: 23.3 °C  
Humidity: 58.2 % RH

1.8(b) Recommended Environmental condition  
Temperature: 25°C ± 10°C  
Humidity: 50% RH ± 20% RH

1.9 Basis of calibration:  
S.O.P Number: S.O.P/ET/27 & 29  
Standard Followed: -  
Description of Method: i) Using Timer / Time Calibrator / Stop Watch by Comparison method.  
ii) Using Digital Tachometer by Comparison Method.

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Digital Tachometer, Make: Metravi, Model No. NCTM 2000, Sl. No. 171103423, Code No. EMC/DT/829	1 rpm to 99999 rpm	0.1 rpm upto 9999.9 rpm & 1 rpm above 9999.9 rpm	13-03-2022	IDEMI (Mumbai) / CC/ECL/1632/20-21
2	Digital Stop Watch, Make: Racer, Code No. EMC/DSW/487	As Per Calibration Result	0.01 s	04-01-2023	EMC (Kolkata) / EMC2022-KOL-00001891
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400

**CALIBRATION RESULT**

Parameter / Range	Nominal Value on DUC (rpm)		Standard Value (rpm)	Error (rpm)	Expanded Uncertainty (±) (rpm)	k factor
	(min)	Equivalent Value (s)				
Rotation cal upto 3986.2 rpm (As per standard value)	800		797.0	3.0	7.54	2.00
	1600		1594.9	5.1	7.78	2.00
	2400		2393.1	6.9	8.53	2.00
	3200		3190.1	9.9	9.35	2.00
	4000		3986.2	13.8	10.66	2.00
Parameter/Range	Nominal Value on DUC		Std Value (s)	Error (s)	Expanded Uncertainty (±) (s)	k factor
	(min)	Equivalent Value (s)				
Time Cal upto 20 min	4	240.00	240.45	-0.45	34.6922	2.00
	8	480.00	480.54	-0.54	34.6922	2.00
	12	720.00	720.63	-0.63	34.6922	2.00
	16	960.00	960.74	-0.74	34.6922	2.00
	20	1200.00	1200.92	-0.92	34.6922	2.00

Note: i) Average of 5 readings had been taken in DUC/STD.  
ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.  
iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.  
iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.  
v) The calibration result is only to be used for scientific & industrial purpose. This result can not be used for commercial purpose.

Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned.

DUC- Device Under Calibration FS.-Full Scale Physical status of the DUC: OK

Calibrated by: Rahul Shaw Date: 11-Feb-2022 Report Issue Date: 14-Feb-2022

Checked & Approved by: Saptarshi Das Date: 14-Feb-2022

*(Signature)*  
TEST ENGINEER  
ELECTRO METER CORPORATION

S. Das  
Technical Manager  
*(Signature)*  
Electro Meter Corporation

END OF CERTIFICATE





CC - 2147



**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No. FM/22

**CALIBRATION CERTIFICATE OF:**  
Centrifuge

Page: 1/1

CALIBRATION CERTIFICATE NO.: EMC2022-KOL-00006666 ULR NO.: GC214722000004329F

1.0 ISSUED TO: CPL DIAGNOSTIC PRIVATE LIMITED  
CZ-8, CANAL S RD, METROPOLITON CO-OPERATIVE-  
HOUSING SOCIETY LIMITED,  
KOLKATA - 700105

1.1 Service Request / Order No.: --

1.2 Description identification of item to be calibrated:

i	Name:	Centrifuge	ii	Code No.:	--
iii	Sl. No.:	ZCJN-28825	iv	Make:	REMI
v	Model / Type No.:	C854/8	vi	Range:	As Per Calibration Result
vii	Sensor:	--	viii	Resolution:	--
ix	Location	Heamatology Lab			

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit: Not Specified

1.4 Date of receipt of item: 11-Feb-2022 1.5 Date of calibration: 11-Feb-2022 1.7 Frequency of calibration: 12 months

1.6 Recommended date for next calibration: 11-Feb-2023

1.8(a)	Environmental condition during calibration	Temperature: 23.3 °C Humidity: 58.2 % RH
1.8(b)	Recommended Environmental condition	Temperature: 25°C ± 10°C Humidity: 50% RH ± 20% RH

1.9 Basis of calibration: S.O.P Number: S.O.P/ET/29  
Standard Followed: --  
Description of Method: Using Digital Tachometer by Comparison Method.

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Digital Tachometer, Make: Metravi, Model No. NCTM 2000, Sl. No. 171103423, Code No. EMC/DT/829	1 rpm to 99999 rpm	0.1 rpm upto 9999.9 rpm & 1 rpm above 9999.9 rpm	13-03-2022	IDEMI (Mumbai) / CC/ECL/1632/20-21
2	Digital Stop Watch, Make: Racer, Code No. EMC/DSW/487	As Per Calibration Result	0.01 s	04-01-2023	EMC (Kolkata) / EMC2022-KOL-00001891
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400

**CALIBRATION RESULT**

Parameter / Range	knob set at position	Standard Value (rpm)	Error	Expanded Uncertainty (±) (rpm)	k factor
Rotation cal upto 5585.2 Knob Set (As per standard value)	1	934.9	--	4.63	2.00
	2	1857.2	--	4.65	2.00
	3	2641.8	--	5.37	2.00
	4	3868.7	--	5.69	2.00
	5	5585.2	--	6.22	2.00

Note: i) Average of 5 readings had been taken in DUC/STD.

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) The calibration result is only to be used for scientific & industrial purpose. This result can not be used for commercial purpose.

Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned.

DUC- Device Under Calibration F.S.-Full Scale Physical status of the DUC: OK

Calibrated by: Rahul Shaw Checked & Approved by: Saptarshi Das

Date: 11-Feb-2022 Date: 14-Feb-2022

Report Issue Date: 14-Feb-2022

*Rahul Shaw*  
TEST ENGINEER  
ELECTRO METER CORPORATION

*S. Das*  
Technical Manager  
Electro Meter Corporation

END OF CERTIFICATE





**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No - FM/22  
**CALIBRATION CERTIFICATE OF:**  
**AUTO PIPETTE**

CC - 2147

CALIBRATION CERTIFICATE NO EMC2022-KOL-00011115 ULR NO CC214722000007051F Page: 1/1

1.0 ISSUED TO: CPL DIAGNOSTICS PVT. LTD  
CZ-8, METROPOLITAN CHS LTD,  
CANAL SOUTH ROAD,  
KOLKATA-700105

1.1 Service Request / Order No. 532-E04-02-22

1.2 Description identification of item to be calibrated	
i Name	AUTO PIPETTE
ii Code No.	CPLDPL/MP-01
iii SI No	QE591670
iv Make	Erbamannheim
v Model / Type No	--
vi Range	100µl to 1000µl
vii Sensor	--
viii Resolution	5µl
ix Location	--

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit Not Specified

1.4 Date of receipt of item 11-Feb-2022 1.5 Date of calibration 16-Feb-2022

1.6 Recommended date for next calibration 16-Feb-2023 1.7 Frequency of calibration 12 months

1.8a Environmental condition during calibration	Temperature	21.0 °C
	Humidity	56.0 % RH
	Atmospheric pressure	1005.6 mbar
	Water Temperature	20.6 °C

1.8b Recommended Enviromental Condition	Temperature	20°C ± 2°C
	Humidity	50% RH ± 10% RH

1.9 Basis of calibration:	S O P Number	S O P/Mass/08
	Standard Followed	ISO 8655:2002, ISO/TR 20461
	Description of Method	Calibration of Micropipette using Digital Precision Balance upto 5g/220g, readability 0.001mg/0.01mg and distilled water of known density by Gravimetric method as per ISO 8655:2002 & ISO/TR 20461

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Weight Box, Make: Mettler Toledo, Grade: E1, Sl. No. B309075500, Code No. EMC/WB-E1/629	1 mg to 200 g	-	18-04-2022	WMCL / WMCL/E/2019-04/2713
2	Micro Balance, Make: Mettler Toledo, Model No. XP6, Sl. No. B713878915, Code No. EMC/MB/766	6.1 g	0.000001 g	14-08-2022	EMC (Kolkata) / EMC2021-KOL-00032770
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400
4	Digital Temperature Indicator, Make: Metravi, Model No. DTI-111, Sl. No. 503, Code No. EMC/DTI/267	(-)50°C to 199.9°C	0.1°C	28-10-2022	EMC (Kolkata) / EMC2021-KOL-00049664
5	Digital Pressure Gauge (Absolute Pressure) Sl. No. D12B151 Model. YDPIR0101, Code No. EMC/APG/574	0 bar to 1.5 bar (Abs)	0.0001 bar	03-09-2023	Wika / WCP/021-407

**CALIBRATION RESULT**

Nominal Range	Resolution	Nominal Value	Value determined by Electronic Balance in	Actual value determined after temp correction in	Error in	Expanded Uncertainty (±)	k factor
		(µl)	(mg)	(µl)	(µl)	(µl)	
100 µl to 1000 µl	5µl	100	100.0015	100.298	0.298	0.012	2.00
		500	499.9980	501.482	1.482	0.059	2.00
		1000	999.9995	1002.967	2.967	0.120	2.00

Note: i) Average of 10 readings had been taken in DUC/STD

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) "The Calibration result is only to be used for scientific and industrial purpose. This result can not be used for commercial purpose."

**Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result**

Remarks: Statement of conformity not mentioned.

DUC- Device Under Calibration

F.S -Full Scale

Physical status of the DUC: OK

Calibrated by: Tarun Ghosal  
Date: 16-Feb-2022  
Report Issue Date : 02-03-2022

Checked & Approved by: Saptarshi Das  
Date : 02-03-2022

Technical Assistant  
Electro Meter Corporation

S. Das  
Technical Manager  
  
Electro Meter Corporation

**END OF CERTIFICATE**





CC - 2147



**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No.: FM/22

**CALIBRATION CERTIFICATE OF:**  
**AUTO PIPETTE**

CALIBRATION CERTIFICATE NO.:

EMC2022-KOL-00011116

ULR NO.:

CC214722000007052F

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1.0 ISSUED TO:

CPL DIAGNOSTICS PVT. LTD  
CZ-8, METROPOLITAN CHS LTD,  
CANAL SOUTH ROAD,  
KOLKATA-700105

1.1 Service Request / Order No.:

532-E04-02-22

1.2 Description identification of item to be calibrated:

i	Name:	AUTO PIPETTE	ii	Code No.:	CPLDPL/MP-02
iii	Sl. No.:	YE213AS0146470	iv	Make:	Erbamannheim
v	Model / Type No.:	--	vi	Range:	10µl to 100µl
vii	Sensor:	--	viii	Resolution:	5µl
ix	Location:	--	Not Specified		

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit:

1.4 Date of receipt of item:

11-Feb-2022

1.5 Date of calibration:

16-Feb-2022

1.6 Recommended date for next calibration

16-Feb-2023

1.7 Frequency of calibration:

12 months

1.8a Environmental condition during calibration

Temperature:	21.0 °C
Humidity:	56.0 % RH
Atmospheric pressure:	1005.6 mbar
Water Temperature:	20.6 °C

1.8b Recommended Environmental Condition

Temperature:	20°C ± 2°C
Humidity:	50% RH ± 10% RH

1.9 Basis of calibration:

S.O.P Number	S.O.P/Mass/08
Standard Followed	ISO 8655: 2002, ISO/TR 20461
Description of Method	Calibration of Micropipette using Digital Precision Balance upto 6g/220g, readability 0.001mg/0.01mg and distilled water of known density by Gravimetric method as per ISO 8655:2002 & ISO/TR 20461

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Weight Box, Make: Mettler Toledo, Grade: E1, Sl. No: B309075500, Code No. EMC/WB-E1/629	1 mg to 200 g	-	18-04-2022	WMCL / WMCL/E/2019-04/2713
2	Micro Balance, Make: Mettler Toledo, Model No: XP6, Sl. No. B713878915, Code No. EMC/MB/766	6.1 g	0.000001 g	14-08-2022	EMC (Kolkata) / EMC2021-KOL-00032770
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400
4	Digital Temperature Indicator, Make: Metravi, Model No. DTI-111, Sl. No. 503, Code No. EMC/DTI/267	(-)50°C to 199.9°C	0.1°C	28-10-2022	EMC (Kolkata) / EMC2021-KOL-00049664
5	Digital Pressure Gauge (Absolute Pressure) Sl. No. D12B151 Model. YDPIR0101, Code No: EMC/APG/574	0 bar to 1.5 bar (Abs)	0.0001 bar	03-09-2023	Wika / WCP/021-407

## CALIBRATION RESULT

Nominal Range	Resolution	Nominal Value	Value determined by Electronic Balance in	Actual value determined after temp correction in	Error in	Expanded Uncertainty (±)	k fact
		(µl)	(mg)	(µl)	(µl)	(µl)	
10 µl to 100 µl	5µl	10	10.0015	10.031	0.031	0.004	2.0
		50	49.9974	50.146	0.146	0.007	2.0
		100	99.9995	100.296	0.296	0.012	2.0

Note: i) Average of 10 readings had been taken in DUC/STD.

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) "The Calibration result is only to be used for scientific and industrial purpose. This result can not be used for commercial purpose."

Measurement uncertainty at approx 95 % of confidence level &amp; at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned.

DUC- Device Under Calibration

F.S.-Full Scale

Physical status of the DUC: OK

Calibrated by: Tarun Ghosal

Date: 16-Feb-2022

Report Issue Date : 02-03-2022

Checked &amp; Approved by: Saptarshi Das

Date : 02-03-2022

Technical Assistant  
Electro Meter Corporation

S. Das  
Technical Manager  
  
Electro Meter Corporation

END OF CERTIFICATE





**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No.: FM/22

**CALIBRATION CERTIFICATE OF:  
AUTO PIPETTE**

CC - 2147

ULR NO.: CC214722000007053F

Page: 1/1

CALIBRATION CERTIFICATE NO.: EMC2022-KOL-00011117

1.0 ISSUED TO: CPL DIAGNOSTICS PVT. LTD  
CZ-8, METROPOLITAN CHS LTD,  
CANAL SOUTH ROAD,  
KOLKATA-700105

1.1 Service Request / Order No.: 532-E04-02-22

1.2 Description identification of item to be calibrated:		ii	Code No.:	CPLDPL/MP-03
i	Name:	iii	Make:	Dragon Lab
iii	SL No.:	vi	Range:	20 µl
v	Model / Type No.:	viii	Resolution:	--
vii	Sensor:			
ix	Location:			

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit: Not Specified

1.4 Date of receipt of item: 11-Feb-2022 1.5 Date of calibration: 16-Feb-2022

1.6 Recommended date for next calibration: 16-Feb-2023 1.7 Frequency of calibration: 12 months

1.8a Environmental condition during calibration

Temperature:	20.7 °C
Humidity:	56.4 % RH
Atmospheric pressure:	1006.0 mbar
Water Temperature:	20.4 °C

1.8b Recommended Environmental Condition

Temperature:	20°C ± 2°C
Humidity:	50% RH ± 10% RH

1.9 Basis of calibration:

S.O.P Number	S.O.P/Mass:08
Standard Followed	ISO 8655: 2002, ISO/TR 20461
Description of Method	Calibration of Micropipette using Digital Precision Balance upto 5g/220g, readability 0.001mg/0.01mg and distilled water of known density by Gravimetric method as per ISO 8655:2002 & ISO/TR 20461

2.0 Traceability : Standards Used for Calibration are Tracable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Weight Box, Make: Mettler Toledo, Grade: E1, Sl. No: B309075500, Code No. EMC/WB-E1/629	1 mg to 200 g	-	18-04-2022	WMCL / WMCL/E/2019-04/2713
2	Micro Balance, Make: Mettler Toledo, Model No: XP6, Sl. No. B713878915, Code No. EMC/MB/766	6.1 g	0.000001 g	14-08-2022	EMC (Kolkata) / EMC2021-KOL-00032770
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400
4	Digital Temperature Indicator, Make: Metravi, Model No. DTI-111, Sl. No. 503, Code No. EMC/DTI/267	(-)50°C to 199.9°C	0.1°C	28-10-2022	EMC (Kolkata) / EMC2021-KOL-00049664
5	Digital Pressure Gauge (Absolute Pressure) Sl. No. D12B151 Model. YDPIR0101, Code No: EMC/APG/574	0 bar to 1.5 bar (Abs)	0.0001 bar	03-09-2023	Wika / WCP/021-407

**CALIBRATION RESULT**

Nominal Range	Resolution	Nominal Value	Value Determined by Electronic Balance in	Actual value Determined After Temp. Correction in	Error in	Expanded Uncertainty (±)	k factor
(µl)		(µl)	(mg)	(µl)	(µl)	(µl)	
20	--	20	19.951	20.009	0.009	0.004	2.00

Note: i) Average of 10 readings had been taken in DUC/STD.

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) "The Calibration result is only to be used for scientific and industrial purpose. This result can not be used for commercial purpose."

Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned.

DUC- Device Under Calibration

F.S.-Full Scale

Physical status of the DUC: OK

Calibrated by: Tarun ghosal

Date: 16-02-2022

Report Issue Date : 02-03-2022

Checked & Approved by: Saptarshi Das

Date : 02-03-2022

Technical Assistant  
Electro Meter Corporation

S. Das  
Technical Manager  
  
Electro Meter Corporation

END OF CERTIFICATE





**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No. FM/22

**CALIBRATION CERTIFICATE OF:  
AUTO PIPETTE**

CALIBRATION CERTIFICATE NO: EMC2022-KOL-00010927 ULR NO: CC214722000007045F Page: 1/1

1.0 ISSUED TO: CPL DIAGNOSTICS PVT. LTD  
CZ-8, METROPOLITAN CHS LTD,  
CANAL SOUTH ROAD, KOLKATA-700105

1.1 Service Request / Order No: CPL-56-02-22

1.2 Description identification of item to be calibrated:

i	Name	AUTO PIPETTE	ii	Code No.	CPLDPL/MP/02
iii	SI No	YE5K647035	iv	Make	Dragon Lab
v	Model / Type No.	--	vi	Range	5µl to 50µl
vii	Sensor	--	viii	Resolution	0.5µl
ix	Location	--			

1.3 Applicable specification of item to be calibrated. Accuracy / permissible limit: Not Specified

1.4 Date of receipt of item: 23-Feb-2022 1.5 Date of calibration: 1-Mar-2022

1.6 Recommended date for next calibration: 1-Mar-2023 1.7 Frequency of calibration: 12 months

1.8a	Environmental condition during calibration	Temperature	21.0 °C
		Humidity	56.0 % RH
		Atmospheric pressure	1005.6 mbar
		Water Temperature	20.6 °C
1.8b	Recommended Environmental Condition	Temperature	20°C ± 2°C
		Humidity	50% RH ± 10% RH

1.9	Basis of calibration:	S O P Number	S O P Mass/IR
		Standard Followed	ISO 8655:2002, ISO/TR 20461
		Description of Method	Calibration of Micropipette using Digital Precision Balance upto 5g/220g, readability 0.001mg/0.01mg and distilled water of known density by Gravimetric method as per ISO 8655 2002 & ISO/TR 20461

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Weight Box, Make: Mettler Toledo, Grade: E1, Sl. No. B309075500, Code No. EMC/WB-E1/629	1 mg to 200 g	-	18-04-2022	WMCL / WMCL/E/2019-04/2713
2	Micro Balance, Make: Mettler Toledo, Model No. XP6, Sl. No. B713878915, Code No. EMC/MB/766	6.1 g	0.000001 g	14-08-2022	EMC (Kolkata) / EMC2021-KOL-00032770
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400
4	Digital Temperature Indicator, Make: Metravi, Model No. DTI-111, Sl. No. 503, Code No. EMC/DTI/267	(-)50°C to 199.9°C	0.1°C	28-10-2022	EMC (Kolkata) / EMC2021-KOL-00049664
5	Digital Pressure Gauge (Absolute Pressure) Sl. No. D12B151 Model. YDPIR0101, Code No. EMC/APG/574	0 bar to 1.5 bar (Abs)	0.0001 bar	03-09-2023	Wika / WCP/021-407

**CALIBRATION RESULT**

Nominal Range	Resolution	Nominal Value	Value determined by Electronic Balance in	Actual value determined after temp correction in	Error in	Expanded Uncertainty (±)	k factor
		(µl)	(mg)	(µl)	(µl)	(µl)	
5 µl to 50 µl	0.5µl	5	5.0025	5.017	0.017	0.003	2.17
		25	25.0040	25.078	0.078	0.006	2.00
		50	49.9945	50.143	0.143	0.007	2.00

Note: i) Average of 10 readings had been taken in DUC/STD

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) "The Calibration result is only to be used for scientific and industrial purpose. This result can not be used for commercial purpose."

Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned

DUC- Device Under Calibration

F.S.-Full Scale

Physical status of the DUC: OK

Calibrated by: **Pallab Sen**  
Date: 1-Mar-2022  
Report Issue Date: 02-03-2022

Checked & Approved by: **Saptarshi Das**  
Date: 02-03-2022

*P Sen*  
Lab in charge  
Electro Meter Corporation

S. Das  
Technical Manager  
Electro Meter Corporation

END OF CERTIFICATE





**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No.: FM/22

**CALIBRATION CERTIFICATE OF:  
AUTO PIPETTE**

CC - 2147

CALIBRATION CERTIFICATE NO

EMC2022-KOL-00010928

ULR NO:

CC214722000007046F

Page: 1/1

1.0 ISSUED TO

CPL DIAGNOSTICS PVT. LTD  
CZ-8, METROPOLITAN CHS LTD,  
CANAL SOUTH ROAD, KOLKATA-700105

1.1 Service Request / Order No.

CPL-56-02-22

1.2 Description identification of item to be calibrated

i	Name	AUTO PIPETTE	ii	Code No	CPLDPL/MP/05
iii	SI No	--	iv	Make	--
v	Model / Type No	--	vi	Range	1µl to 10µl
vii	Sensor	--	viii	Resolution	0.1µl
ix	Location	--			

1.3 Applicable specification of item to be calibrated Accuracy / permissible limit

Not Specified

1.4 Date of receipt of item

23-Feb-2022

1.5 Date of calibration

1-Mar-2022

1.6 Recommended date for next calibration

1-Mar-2023

1.7 Frequency of calibration:

12 months

1.8a

Environmental condition during calibration

Temperature	21.0 °C
Humidity	56.0 % RH
Atmospheric pressure	1005.6 mbar
Water Temperature	20.6 °C

1.8b

Recommended Environmental Condition

Temperature	20°C ± 2°C
Humidity	50% RH ± 10% RH

1.9

Basis of calibration:

S O P Number	S O P/Mass/08
Standard Followed	ISO 8655: 2002, ISO/TR 20461
Description of Method	Calibration of Micropipette using Digital Precision Balance upto 6g/220g, readability 0.001mg/0.01mg and distilled water of known density by Gravimetric method as per ISO 8655: 2002 & ISO/TR 20461

2.0 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Weight Box, Make: Mettler Toledo, Grade: E1, SI No. B309075500, Code No. EMC/WB-E1/629	1 mg to 200 g	-	18-04-2022	WMCL / WMCL/E/2019-04/2713
2	Micro Balance, Make: Mettler Toledo, Model No: XP6, SI No. B713878915, Code No. EMC/MB/766	6.1 g	0.000001 g	14-08-2022	EMC (Kolkata) / EMC2021-KOL-00032770
3	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, SI No. 141017143, Code No. EMC/DTHM/769	19°C to 25°C (for Temperature) & 15% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	18-03-2022	EMC (Kolkata) / EMC2021-KOL-00011400
4	Digital Temperature Indicator, Make: Metravi, Model No. DTI-111, SI No. 503, Code No. EMC/DTI/267	(-150°C to 199.9°C)	0.1°C	28-10-2022	EMC (Kolkata) / EMC2021-KOL-00049664
5	Digital Pressure Gauge (Absolute Pressure) SI No. D12B151 Model. YDPIR0101, Code No. EMC/APG/574	0 bar to 1.5 bar (Abs)	0.0001 bar	03-09-2023	Wika / WCP/021-407

**CALIBRATION RESULT**

Nominal Range	Resolution	Nominal Value	Value determined by Electronic Balance in	Actual value determined after temp correction in	Error in	Expanded Uncertainty (±)	k factor
		(µl)	(mg)	(µl)	(µl)	(µl)	
1 µl to 10 µl	0.1 µl	1	1.0015	1.004	0.004	0.003	2.20
		5	5.0020	5.017	0.017	0.003	2.01
		10	9.9965	10.026	0.026	0.004	2.02

Note: i) Average of 10 readings had been taken in DUC/STD

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement

v) "The Calibration result is only to be used for scientific and industrial purpose. This result can not be used for commercial purpose."

Measurement uncertainty at approx 95 % of confidence level & at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned

DUC - Device Under Calibration

FS - Full Scale

Physical status of the DUC: OK

Calibrated by: **Pallab Sen**  
Date: 1-Mar-2022  
Report Issue Date: 02-03-2022

Checked & Approved by: **Saptarshi Das**  
Date: 02-03-2022

*Pallab Sen*  
Lab in charge  
Electro Meter Corporation

S. Das  
Technical Manager  
Electro Meter Corporation

END OF CERTIFICATE





CC-2147

ELECTRO METER CORPORATION  
P- 5, C.I.T ROAD,  
KOLKATA - 700014.

Form No.: FM/22

CALIBRATION CERTIFICATE OF:  
DIGITAL THERMOMETER WITH SENSOR

Page: 1/1

CALIBRATION CERTIFICATE NO: EMC2022-KOL-00011155

ULR NO: CC21472200007085F

1.0 ISSUED TO:

CPL Diagnostics Pvt. Ltd.  
CZ-8, Metropolitan CHS Ltd,  
Canal South Road,  
Kolkata-700 105

1.1 Service Request / Order No.:

532-E04-02-22

Description identification of item to be calibrated:

i	Name:	DIGITAL THERMOMETER WITH SENSOR	ii	Code No.:	CPLDPL/DTS/01
iii	Sl. No.:	--	iv	Make:	MEXTECH
v	Model / Type No.:	ST9283B	vi	Range:	(-)50°C to 300°C
vii	Sensor:	--	viii	Resolution:	0.1°C
ix	Location:	--			

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit:

Not Specified

1.4 Date of receipt of item:

11-Feb-2022

1.5 Date of calibration:

22-Feb-2022

1.6 Recommended date for next calibration:

22-Feb-2023

1.7 Frequency of calibration:

12 months

1.8a) Environmental condition during calibration

Temperature: 22.5°C

Humidity: 55.7% RH

1.8b) Recommended Environmental condition

Temperature: 25°C ± 4°C

Humidity: 50% RH ± 20% RH

1.9 Basis of calibration:

S.O.P Number

S.O.P/Thermal/10

Standard Followed

IS 6274 -1971, IS 2480 (PART I) - 1983, IS 2480 (PART II) - 1982 &amp; OIML R 133: 2002

Description of Method

Using Alcohol / Water / Oil / Dry Block Bath And SPRT / SSPRT / RTD / K type / R type / R type with cold junction / B type, DAS by comparison method.

2.0 Traceability : Standards used for calibration are traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Data Acquisition Switch, Make: Agilent, Model No: 34970A, Sl. No.: MY44022114, Code No: EMC/DAS/291	As Per Calibration Result	As Per Calibration Result	11-08-2022	EMC (Kolkata) / EMC2021-KOL-00049717
2	Semi Standard Platinum Resistance Thermometer, Make: Isotech, Model: 935-14-95H, Sl. No: 39649/1, Code No: EMC/SSPRT/871	(-)80°C to 650°C	-	30-12-2022	Tempens / TL/020/1138.1.1
3	Julabo Bath (-80°C), Make: Julabo, Model No. FP-88, Sl. No. 100072670, Code No. EMC/JULABO (-80°C)/240	(-)80°C to 20°C	0.01°C	23-03-2022	EMC (Kolkata) / EMC2021-KOL-00011705
4	Heating Bath Circulator, Make: Julabo, Model No. TP-12, Code No. EMC/JULABO/06	100°C to 250°C	0.01°C	23-03-2022	EMC (Kolkata) / EMC2021-KOL-00011706
5	Salt Bath, Make: Eastern Instrument Soft Logic, Code No.: EMC/SB/294	275°C to 600°C	0.1°C	18-06-2022	EMC (Kolkata) / EMC2021-KOL-00024486
6	Digital Temperature & Humidity Meter, Make: Metravi, Model No. HT-3005, Sl. No. 141017137, Code No. EMC/DTHM/840	19°C to 22°C (for Temperature) & 40% RH to 80% RH (for Humidity)	0.1°C (for Temperature) & 0.1% RH (for Humidity)	20-03-2022	EMC (Kolkata) / EMC2021-KOL-00017277

## CALIBRATION RESULT

Parameter / Range	Nominal Value on DUC (°C)	Corrected Value (°C)	Error (°C)	Expanded Uncertainty (±) (°C)	k factor
Temperature (-)50°C to 300°C	-45.2	-44.787	-0.413	0.20	1.96
	-0.4	0.160	-0.560	0.21	1.97
	99.4	100.124	-0.724	0.19	1.96
	199.3	200.116	-0.816	0.21	1.97
	296.6	298.074	-1.474	0.46	1.96

Immersion Type = Full

Note: i) Corrected Value = Std Value + Correction,

ii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.

iii) The certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract there of has to be got specifically approved from the technical and the quality manager of this lab.

iv) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.

v) The calibration result is only to be used for scientific &amp; industrial purpose. This result can not be used for commercial purpose.

Measurement uncertainty at approx 95 % of confidence level &amp; at a coverage factor : As Per Calibration Result

Remarks: Statement of conformity not mentioned.

DUC: Device Under Calibration

FS.: Full Scale

Physical status of the DUC: OK


Calibrated by: Akash Singh

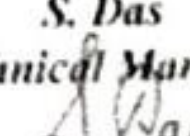
Date: 22-Feb-2022

Report Issue Date: 17-Mar-2022

Checked &amp; Approved by: Saptarshi Das

Date: 17-Mar-2022

  
 Test Engineer  
 Electro Meter Corporation

 S. Das  
 Technical Manager  
  
 Electro Meter Corporation

END OF CERTIFICATE





CC - 2147



**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No.: FM/22

**CALIBRATION CERTIFICATE OF:**  
**DIGITAL THERMOHYGROMETER**

CALIBRATION CERTIFICATE NO : EMC2022-KOL-00011154 ULR NO : CC214722000007084F Page: 1/2

1 ISSUED TO: CPL Diagnostics Pvt, Ltd.  
CZ-8, Metropolitan CHS Ltd,  
Canal South Road,  
Kolkata-700 105

1.1 Service Request / Order No.: 532-E04-02-22

Description identification of item to be calibrated:						
1.2	i	Name:	DIGITAL THERMOHYGROMETER	ii	Code No.:	CPLDPL/DHT/03
	iii	Sl. No.:	--	iv	Make:	APTECH DEALS
	v	Model / Type No.:	HTC-1	vi	Range:	As per calibration result
	vi	Sensor:	--	viii	Resolution:	0.1°C (For Temperature) & 1% RH (For Relative Humidity)
	ix	Location:	--			

1.3 Applicable specification of item to be calibrated: Accuracy / permissible limit: Not Specified

1.4 Date of receipt of item: 11-Feb-2022 1.5 Date of calibration: 22-Feb-2022

1.6 Recommended date for next calibration: 22-Feb-2023 1.7 Frequency of calibration: 12 months

1.8a) Environmental condition during calibration  
Temperature: 22.5°C  
Humidity: 55.7% RH

1.8b) Recommended Environmental condition  
Temperature: 25°C ± 4°C  
Humidity: 50% RH ± 20% RH

1.9 Basis of calibration:  
S.O.P Number: SOP/Thermal/05 & 10  
Standard Followed: i)NABL NEWS (ISSUE NO: 41, JAN - 2006) ii)IS 6274 -1971,IS 2480 (PART I) - 1983, IS 2480 (PART II) - 1982 & OIML R 133: 2002  
Description of Method: i)Using RH Generator system and Humidity Indicator by comparison method. ii)Using Alcohol / Water / Oil / Dry Block Bath And SPRT / SSPRT / RTD / K type / R type / R type with cold junction / B type, DAS by comparison method.

2 Traceability : Standards Used for Calibration are Traceable to National/International Standards through ISO/IEC: 17025 Accredited Laboratory.

Sl. No.	Name of the standard instrument used (Sl. No./Code Nos.)	Range	Resolution	Recommended date for next calibration	Traceable to / Certificate Nos.
1	Data Acquisition Switch Unit, Make: Keysight, Model: 34970A, Sl. No.: MY41029352, Code No. EMC/DASU/479	As Per Calibration Result	As Per Calibration Result	31-08-2022	EMC (Kolkata) / EMC2021-KOL-00036399
2	Semi Standard Platinum Resistance Thermometer, Make: Isotech, Model: 935-14-95H, Sl. No: 39649/1, Code No: EMC/SSPRT/871	(-)80°C to 650°C	--	30-12-2022	Tempsens / TL/020/1138.1.1
3	Digital Temperature & Humidity Meter with Sensor, Make: Rex, Sl. No. 00001, Model: RH-MK-3.2, Code No. EMC/DTHM/770	5% RH to 100% RH @ 25°C	0.001% RH	09-04-2023	Perfect Calibration / PC-04-21/ATL/0904-01





**ELECTRO METER CORPORATION**  
P- 5, C.I.T ROAD,  
KOLKATA - 700014

Form No.: FM/22

**CALIBRATION CERTIFICATE OF:**  
**DIGITAL THERMOHYGROMETER**

CALIBRATION CERTIFICATE NO : EMC2022-KOL-00011154 ULR NO : CC214722000007084F Page: 2/2

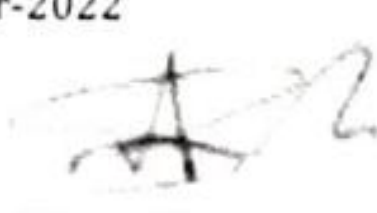

**CALIBRATION RESULT**

Parameter / Range	Nominal Value on DUC (°C)	Corrected Value (°C)	Error (°C)	Expanded Uncertainty (±) (°C)	k factor
<b>Temperature</b> Cal from 10°C to 50°C	10.3	10.191	0.109	0.18	2.00
	20.5	20.109	0.391	0.18	2.00
	30.3	29.341	0.959	0.18	2.00
	40.2	39.523	0.677	0.18	2.00
	49.7	49.579	0.121	0.18	2.00
<b>Relative Humidity</b> Cal from 15% RH to 95% RH At 25°C	(% RH)	(% RH)	(% RH)	(% RH)	
	12	15.976	-3.976	1.78	2.00
	26	30.090	-4.090	1.78	2.00
	44	50.135	-6.135	1.78	2.00
	63	70.230	-7.230	1.78	2.00
	86	93.533	-7.533	1.78	2.00

- Note : i) Corrected Value = Std Value + Correction,  
 ii) Average of 5 readings had been taken in DUC/Corrected Value  
 iii) The calibration certificate is issued by Electro Meter Corporation. This certificate refers only for the particular item submitted to calibrate.  
 iv) The Certificate if produced for any purpose commercial or otherwise, should be reproduced in full. Partial production of the certificate or an abstract thereof has to be got specifically approved from the technical and the quality manager of this lab.  
 v) The results in the calibration certificate are valid at the time of and under the stated conditions on measurement.  
 vi) The calibration result is only to be used for scientific & industrial purpose. This result can not be used for commercial purpose.

**Measurement uncertainty at approx 95% of confidence level & at coverage factor : As per calibration result.**

Remarks: Statement of conformity not mentioned.

DUC: Device Under Calibration	F.S.: Full Scale	Physical status of the DUC: OK
<b>Calibrated by: Akash Singh</b> Date: 22-Feb-2022 Report Issue Date : 2-Mar-2022  <b>Test Engineer</b> Electro Meter Corporation	<b>Checked &amp; Approved by: Saptarshi Das</b> Date: 2-Mar-2022  <b>S. Das</b> <b>Technical Manager</b> Electro Meter Corporation	

**END OF CERTIFICATE**