



Perfect Calibration Centre Pvt. Ltd.

No. 84, 1st Floor, "Times Corner", Gengu Reddy Road, Egmore, Chennai - 600 008.
 Ph : (044) 28192530, 28192930, 28193130 www.perfectcallab.in
 Email : perfectcallab.info@gmail.com / info@perfectcallab.in

CERTIFICATE OF CALIBRATION

CUSTOMER : M/s. COSMOS CLINICS AND DIAGNOSTICS,
ADDRESS : ANDRAHALI MAIN ROAD,
 BANGALORE - 560091.
CUST REF : DC.NO: 8162 DATED: 08/07/2021
DEPT : AT LAB

CERTIFICATE NO. : PC - 07 - 21 / ATL / 2432 - 07
CAL DATE : 10/07/2021
DUE DATE : 09/07/2022
PAGE NO. : 1/1
DISCIPLINE: MECHANICAL

MICRO PIPETTE

DATE OF RECEIPT : '10/07/2021
PHYSICAL CONDITION : SATISFACTORY

TEMPERATURE : 20.4°C
HUMIDITY : 51% RH
ATMOSPHERIC PRESSURE : 1008 hpa
Z FACTOR : 1.0029 $\mu\text{L}/\text{mg}$

PIPETTE DETAILS:

MAKE : -- **MODEL** : --
TYPE : VARIABLE **RANGE** : 5 - 50 μL
SL NO. : NA440562 **L.C.** : 0.5 μL
ID.NO : CCD/P5 - 50/31

STANDARD USED	SL.NO/ID.NO	CERT. NO.	VALIDITY
ELECTRONIC BALANCE	1125510540 / PCCPL/EB - 02	PC-09-20 / ATL / 2219-02	20/09/2021

CALIBRATION PROCEDURE : WI-M-MP-44(L) **REFERENCE STANDARD** : ISO 8655-6 & ISO/ TR 20461

CALIBRATION RESULTS

1. LOWER VOLUME 5 μL NO. OF MEASUREMENT : 10

4.74	4.70	4.76	4.74	4.68	4.69	4.70	4.64	4.56	4.66
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MEAN VOLUME: 4.69 **ERROR LIMIT**

SYSTEMATIC ERROR (e_s) μL : 0.07 ($\pm 0.125 \mu\text{L}$) **RANDOM ERROR (S_r) μL :** 0.06 ($\pm 0.075 \mu\text{L}$)

SYSTEMATIC ERROR (e_s) in % : 0.31 ($\pm 2.5\%$) **RANDOM ERROR (C_v) % :** 1.24 ($\pm 1.5\%$)

UNCERTAINTY OF MEASUREMENTS = $\pm 0.11 \mu\text{L}$

THE REPORTED EXPANDED MEASUREMENT UNCERTAINTY IS STATED AS THE COMBINED STANDARD MEASUREMENT UNCERTAINTY MULTIPLIED BY THE COVERAGE FACTOR $K=2$ SUCH THAT THE COVERAGE PROBABILITY CORRESPONDS TO APPROXIMATELY 95%.
 NOTE : THIS CALIBRATION CERTIFICATE IS VALID FOR SCIENTIFIC & INDUSTRIAL PURPOSE ONLY AND NOT APPLICABLE FOR COMMERCIAL PURPOSE

*** END OF CERTIFICATE ***

SURITA S
 Jr. ENGINEER

SURITA S
 PREPARED BY



CHANDRA SEKAR S
 TECHNICAL MANAGER

Calibrated / Checked by

Authorised Signatory

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NABL LAB FOR : MECHANICAL • THERMAL • ET • AIR / FLUID FLOW • FORCE • MASS • OPTICAL

CERTIFICATE OF CALIBRATION

ULR-CC220721000029488P
ISSUE DATE:10/07/2021

CERTIFICATE NO.: PC-07-21 / ATL / 2432 - 05
CAL DATE: 10/07/2021
DUE DATE: 09/07/2022
PAGE NO.: 1/1
DISCIPLINE: MECHANICAL

CUSTOMER : M/s. COSMOS CLINICS AND DIAGNOSTICS,
ADDRESS : ANDRAHALLI MAIN ROAD,
BANGALORE - 560091.
CUST REF : DC.NO: 8162 DATED: 08/07/2021
DEPT : AT LAB

MICRO PIPETTE

DATE OF RECEIPT : '10/07/2021
PHYSICAL CONDITION : SATISFACTORY

TEMPERATURE : 20.4°C
HUMIDITY : 51% RH
ATMOSPHERIC PRESSURE : 1008 hpa
Z FACTOR : 1.0029 $\mu\text{L}/\text{mg}$

PIPETTE DETAILS:

MAKE : THERMO SCIENTIFIC MODEL : FINNPIPETTE F3
TYPE : VARIABLE RANGE : 1 - 10 μl
SL NO. : PW01354 L.C. : 0.02 μl
ID.NO : CCD/P1 - 10/31

STANDARD USED	SL.NO/ID.NO	CERT. NO.	VALIDITY
ELECTRONIC BALANCE	1125510540 / PCCPL/EB - 02	PC-09-20 / ATL / 2219-02	20/09/2021

CALIBRATION PROCEDURE : WI-M-MP-44(L)

REFERENCE STANDARD : ISO 8655-6 & ISO / TR 20461

CALIBRATION RESULTS

1. UPPER VOLUME

10 μl

NO. OF MEASUREMENT : 10

9.66	9.60	9.66	9.62	9.64	9.69	9.70	9.70	9.66	9.70
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MEAN VOLUME:	9.66	ERROR LIMIT		ERROR LIMIT
SYSTEMATIC ERROR (e_s) μl :	0.00	($\pm 0.2 \mu\text{l}$)	RANDOM ERROR (S_r) μl :	0.04 ($\pm 0.1 \mu\text{l}$)
SYSTEMATIC ERROR (e_s) in % :	0.34	($\pm 1.0 \%$)	RANDOM ERROR (C_v) % :	0.37 ($\pm 0.5 \%$)

UNCERTAINTY OF MEASUREMENTS = $\pm 0.11 \mu\text{L}$

THE REPORTED EXPANDED MEASUREMENT UNCERTAINTY IS STATED AS THE COMBINED STANDARD MEASUREMENT UNCERTAINTY MULTIPLIED BY THE COVERAGE FACTOR $K=2$ SUCH THAT THE COVERAGE PROBABILITY CORRESPONDS TO APPROXIMATELY 95%.

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Jr. ENGINEER



PREPARED BY



CHANDRA SEKAR S
TECHNICAL MANAGER

Calibrated / Checked by

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CHE 24353



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CC - 2207

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CERTIFICATE OF CALIBRATION

ULR-CC220721000029487P
ISSUE DATE:10/07/2021

CERTIFICATE NO. : PC - 07- 21 / ATL / 2432 - 04

CUSTOMER : M/s. COSMOS CLINICS AND DIAGNOSTICS,
ADDRESS : ANDRAHALLI MAIN ROAD,
BANGALORE - 560091.
CUST REF : DC.NO: 8162 DATED: 08/07/2021
DEPT : AT LAB

CAL DATE : 10/07/2021

DUE DATE : 09/07/2022

PAGE NO. : 1/1

DISCIPLINE: MECHANICAL

MICRO PIPETTE

DATE OF RECEIPT : 10/07/2021
PHYSICAL CONDITION : SATISFACTORY

TEMPERATURE : 20.4°C

HUMIDITY : 51% RH

ATMOSPHERIC PRESSURE : 1008 hpa

Z FACTOR : 1.0029 $\mu\text{L}/\text{mg}$

PIPETTE DETAILS:

MAKE : -- MODEL : --
TYPE : VARIABLE RANGE : 5 - 50 μL
SL.NO. : NA440562 L.C. : 0.5 μL
ID.NO : CCD/P5 - 50/31

STANDARD USED	SL.NO/ID.NO	CERT. NO.	VALIDITY
ELECTRONIC BALANCE	1125510540 / PCCPL/EB - 02	PC-09-20 / ATL / 2219-02	20/09/2021

CALIBRATION PROCEDURE : WI-M-MP-44(L)

REFERENCE STANDARD : ISO 8655-6 & ISO/ TR 20461

CALIBRATION RESULTS

1. LOWER VOLUME		10 μL	NO. OF MEASUREMENT : 10						
9.68	9.58	9.56	9.66	9.73	9.68	9.76	9.68	9.70	9.53

MEAN VOLUME:		9.65	ERROR LIMIT		RANDOM ERROR (Sr) μL :		0.08	ERROR LIMIT	
SYSTEMATIC ERROR (e_s) μL :	0.10	($\pm 0.2 \mu\text{L}$)			RANDOM ERROR (Cv) % :		0.78	(± 0.5 %)	
SYSTEMATIC ERROR (e_s) in % :	0.35	(± 1.0 %)							

2. MIDDLE VOLUME		25 μL	NO. OF MEASUREMENT : 10						
25.02	24.51	24.54	24.66	24.80	24.70	24.67	24.58	24.64	24.59

MEAN VOLUME:		24.67	ERROR LIMIT		RANDOM ERROR (Sr) μL :		0.15	ERROR LIMIT	
SYSTEMATIC ERROR (e_s) μL :	0.33	($\pm 0.5 \mu\text{L}$)			RANDOM ERROR (Cv) % :		0.60	(± 0.4 %)	
SYSTEMATIC ERROR (e_s) in % :	1.31	(± 1.0 %)							

3. UPPER VOLUME		50 μL	NO. OF MEASUREMENT : 10						
49.07	48.79	48.74	48.75	48.69	48.65	48.67	48.64	48.67	48.67

MEAN VOLUME:		48.73	ERROR LIMIT		RANDOM ERROR (Sr) μL :		0.13	ERROR LIMIT	
SYSTEMATIC ERROR (e_s) μL :	1.27	($\pm 0.5 \mu\text{L}$)			RANDOM ERROR (Cv) % :		0.26	(± 0.4 %)	
SYSTEMATIC ERROR (e_s) in % :	2.53	(± 1.0 %)							

UNCERTAINTY OF MEASUREMENTS = $\pm 0.27 \mu\text{L}$

THE REPORTED EXPANDED MEASUREMENT UNCERTAINTY IS STATED AS THE COMBINED STANDARD MEASUREMENT UNCERTAINTY MULTIPLIED BY THE COVERAGE FACTOR K=2 SUCH THAT THE COVERAGE PROBABILITY CORRESPONDS TO APPROXIMATELY 95%.

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*** END OF CERTIFICATE ***

SURYA S

Jr. ENGINEER



SURYA S

PREPARED BY



SHANMUKH S

TECHNICAL MANAGER

Calibrated / Checked by

Authorised Signatory

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CHE 24352



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ULR-CC220721000029486F
ISSUE DATE:10/07/2021

CERTIFICATE NO.: PC-07-21/ATL/2432-03
CAL DATE: 10/07/2021
DUE DATE: 09/07/2022
PAGE NO.: 1/1
DISCIPLINE: MECHANICAL

CUSTOMER : M/s. COSMOS CLINICS AND DIAGNOSTICS,
ADDRESS : ANDRAHALLI MAIN ROAD,
BANGALORE - 560091.
CUST REF : DC.NO: 8162 DATED: 08/07/2021
DEPT : AT LAB

MICRO PIPETTE

DATE OF RECEIPT : '10/07/2021
PHYSICAL CONDITION : SATISFACTORY

TEMPERATURE : 20.4°C
HUMIDITY : 51% RH
ATMOSPHERIC PRESSURE : 1008 hpa
Z FACTOR : 1.0029 µL/mg

PIPETTE DETAILS:

MAKE : WAVE MODEL : --
TYPE : FIXED RANGE : 75 µl
SL NO. : 091701239
ID.NO : CCD/P75/ 28

STANDARD USED	SL.NO/ID.NO	CERT. NO.	VALIDITY
ELECTRONIC BALANCE	1125510540 / PCCPL/EB-02	PC-09-20 / ATL / 2219-02	20/09/2021

CALIBRATION PROCEDURE : WI-M-MP-44(L) REFERENCE STANDARD : ISO 8655-6 & ISO/ TR 20461

CALIBRATION RESULTS

1. FIXED VOLUME

75 µl

NO. OF MEASUREMENT : 10

74.84	74.84	75.09	74.94	74.87	74.74	74.89	74.07	74.90	74.95
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MEAN VOLUME:

74.81

ERROR LIMIT

ERROR LIMIT

SYSTEMATIC ERROR (e_s) µl : 0.28 (± 0.8 µL) RANDOM ERROR (Sr) µl : 0.27 (± 0.3 µL)


SYSTEMATIC ERROR (e_s) in % : 0.19 (± 0.8 %) RANDOM ERROR (Cv) % : 0.37 (± 0.3 %)

UNCERTAINTY OF MEASUREMENTS = ± 0.27 µL

THE REPORTED EXPANDED MEASUREMENT UNCERTAINTY IS STATED AS THE COMBINED STANDARD MEASUREMENT UNCERTAINTY MULTIPLIED BY THE COVERAGE FACTOR K=2 SUCH THAT THE COVERAGE PROBABILITY CORRESPONDS TO APPROXIMATELY 95%.

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Jr. ENGINEER




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PREPARED BY




CHANDRA SEKAR.S
TECHNICAL MANAGER

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CHE 24351



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ULR-CC220721000029485F
 ISSUE DATE: 10/07/2021

CERTIFICATE NO.: PC-07-21/ATL/2432-02
 CAL DATE: 10/07/2021
 DUE DATE: 09/07/2022
 PAGE NO.: 1/1
 DISCIPLINE: MECHANICAL

CUSTOMER : M/s. COSMOS CLINICS AND DIAGNOSTICS,
 ADDRESS : ANDRAHALLI MAIN ROAD,
 BANGALORE - 560091.
 CUST REF : DC.NO: 8162 DATED: 08/07/2021
 DEPT : AT LAB

MICRO PIPETTE

DATE OF RECEIPT : 10/07/2021
 PHYSICAL CONDITION : SATISFACTORY

TEMPERATURE: 20.4°C
 HUMIDITY: 51% RH
 ATMOSPHERIC PRESSURE: 1008 hpa
 Z FACTOR: 1.0029 $\mu\text{L}/\text{mg}$

PIPETTE DETAILS:

MAKE : -- MODEL : --
 TYPE : VARIABLE RANGE : 20 - 200 μL
 SL NO. : YN173AA0002516 L.C. : 1 μL
 ID.NO : CCD/P20 - 2000/30

STANDARD USED	SL.NO/ID.NO	CERT. NO.	VALIDITY
ELECTRONIC BALANCE	1125510540 / PCCPL/EB-02	PC-09-20 / ATL / 2219-02	20/09/2021

CALIBRATION PROCEDURE: WI-M-MP-44(L) REFERENCE STANDARD: ISO 8655-6 & ISO/TR 20461

CALIBRATION RESULTS

1. LOWER VOLUME 20 μL NO. OF MEASUREMENT: 10

19.72	19.88	19.70	19.58	19.89	19.80	19.91	19.70	19.78	19.71
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MEAN VOLUME: 19.76 ERROR LIMIT
 SYSTEMATIC ERROR (e_s) μL : 0.07 ($\pm 0.2 \mu\text{L}$) RANDOM ERROR (Sr) μL : 0.11 ($\pm 0.1 \mu\text{L}$)
 SYSTEMATIC ERROR (e_s) in % : 0.24 ($\pm 1.0 \%$) RANDOM ERROR (Cv) % : 0.53 ($\pm 0.5 \%$)

2. MIDDLE VOLUME 100 μL NO. OF MEASUREMENT: 10

98.66	98.73	98.63	99.24	99.01	99.15	98.50	99.21	98.50	99.16
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MEAN VOLUME: 98.88 ERROR LIMIT
 SYSTEMATIC ERROR (e_s) μL : 1.12 ($\pm 0.8 \mu\text{L}$) RANDOM ERROR (Sr) μL : 0.30 ($\pm 0.3 \mu\text{L}$)
 SYSTEMATIC ERROR (e_s) in % : 1.12 ($\pm 0.8 \%$) RANDOM ERROR (Cv) % : 0.31 ($\pm 0.3 \%$)

3. UPPER VOLUME 200 μL NO. OF MEASUREMENT: 10

197.93	197.82	197.89	197.99	197.89	197.59	197.65	198.41	197.66	197.82
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MEAN VOLUME: 197.87 ERROR LIMIT
 SYSTEMATIC ERROR (e_s) μL : 2.13 ($\pm 1.6 \mu\text{L}$) RANDOM ERROR (Sr) μL : 0.23 ($\pm 0.6 \mu\text{L}$)
 SYSTEMATIC ERROR (e_s) in % : 1.07 ($\pm 0.8 \%$) RANDOM ERROR (Cv) % : 0.12 ($\pm 0.3 \%$)

UNCERTAINTY OF MEASUREMENTS = $\pm 0.61 \mu\text{L}$
 THE REPORTED EXPANDED MEASUREMENT UNCERTAINTY IS STATED AS THE COMBINED STANDARD MEASUREMENT UNCERTAINTY MULTIPLIED BY THE COVERAGE FACTOR K=2 SUCH THAT THE COVERAGE PROBABILITY CORRESPONDS TO APPROXIMATELY 95%.
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SURJAS
 Jr. ENGINEER



SURJAS
 PREPARED BY



CHANDRA SEKARS
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