

CALIBRATION CERTIFICATE

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K.K Nagar
Chennai
600078

Certificate No: **3684**

Received Date: 30-Jan-23
Calibration Date: 31-Jan-23
Recom Due Date: 31-Jan-24
Cert Issued Date: 3-Feb-23

ULR No: 0231562300000023R

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017 This is in compliance with National International Standards The piston operated device calibration carried out with respect to standard as per ISO 8655-2:2002

Unit Under Calibration:

Description	Micropipette	Serial No	W254253
Make	Thermo	ID no	Nil
Model	Finnpipette	Condition on Receipt	Functional
Volume Range(µl)	10	Calibration Point(µl)	10
Least Count(µl)	NA	Accuracy(µl)	As per Manual
Location	Service Lab	No of Channel	Single-Fixed volume

Environmental conditions:

Temperature(°C)	25±2 °C	Relative Humidity(%)	45% to 80 %	Air Pressure(hPa)	1000 ± 2
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Standard's Traceability Details:

SI No	Equipment	SI No	Calibrating Agency	Traceability No	Valid up to
1	Dig Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL,Chennai	TVCSPL 22/10/1762-02	30-Oct-23
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL,Chennai	TVCSPL 22/10/1762-01	30-Oct-23

Calibration Results (Mechanical-Volume):

SI No	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty(µl)
1	10	10.01	-0.01	0.05

Laboratory Procedure No: OCC-WI-01

As per ISO 8655-2:2002 systematic error, Random error and Error limits:

SI No	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst Error Limits(µl)	Random Error(µl)	Random Limits(µl)
1	10	10.01	0.01	0.12	0.01	0.05

Remarks:

- *Calculated Mean Value given is the average of 10 measurements
- *Equipment used for calibration were calibrated & Traceable to National and International standard
- *The reported Expanded Uncertainty is calculated at 95.45 % CL with coverage factor k=2
- *This calibration certificate is valid for scientific & industrial purpose only
- *SRF No.367-13 * Certificate format No OCC-FR-05
- *This report refers only to particular item submitted for calibration
- *Calibrated at In-House Lab
- *The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2:2002 permissible limits)

Calibrated by

Subashchandrabose
Calibration Engineer

End of Certificate



Certificate



Sign



CALIBRATION CERTIFICATE

Page No 1 of 1

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K.K Nagar
Chennai
600078

Certificate No: **3648**

Received Date: 30-Jan-23
Calibration Date: 31-Jan-23
Recom Due Date: 31-Jan-24
Cert. Issued Date: 3-Feb-23

ULR No: CC315623000000217F

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017 This is in compliance with National/International Standards The piston operated device calibration carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description	Micropipette	Serial No:	10036277
Make:	Biohit	ID no:	Nil
Model:	Proline	Calibration Points(µl):	2,10,20
Volume Range(µl):	2-20	Condition on Receipt:	Functional
Least Count(µl):	0.5	Accuracy(µl)±:	As per Manual
Location:	Service Lab	No of Channel:	Single-Variable Volume

Environmental conditions:

Temperature(°C):	25±2°C	Relative Humidity(%):	45% to 80 % RH	Air Pressure(hPa):	1000 ± 20
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Standard's Traceability Details:

Sl.No:	Equipment	Sl.No	Calibrating Agency	Traceability No	Valid upto
1	Dig Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL,Chennai	TVCSPL 22/10/1792-02	20-Oct-23
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL,Chennai	TVCSPL 22/10/1792-01	20-Oct-23

Calibration Results (Mechanical Volume):

Laboratory Procedure No:CCC-WI-01

Sl.No:	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty(±µl)
1	2	1.99	0.01	0.05
2	10	10.02	-0.02	0.05
3	20	19.94	0.06	0.30

As per ISO 8655-2:2002 systematic error, Random error and Error limits:

Sl.No:	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst Error Limits(±µl)	Random Error(µl)	Random Limits(µl)
1	2	1.99	-0.01	0.08	0.01	0.0
2	10	10.02	0.02	0.12	0.01	0.0
3	20	19.94	-0.06	0.20	0.02	0.1

Remarks:

- *Calculated Mean Value given is the average of 10 measurements
- *Equipment used for calibration were calibrated & Traceable to National and International standard
- *The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor k=2
- *This calibration certificate is valid for scientific & industrial purpose only
- *SRF No 367-17 * Certificate format No CCC-FR-05
- *This report refers only to particular item submitted for calibration
- *Calibrated at In-House Lab
- * The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2 2002 permissible limits)

Calibrated by

Subashchandrabose
Calibration Engineer

End of Certificate



Certificate



Scope



#18, D.K. Nagar Main Road, | 93822 93522
Maduravoyal, Chennai - 600 095. | 91235 62922

CALIBRATION CERTIFICATE

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Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K K Nagar
Chennai
600078

Certificate No: **3647**

Received Date: 30-Jan-23
Calibration Date: 31-Jan-23
Recom Due Date: 31-Jan-24
Cert. Issued Date: 3-Feb-23

ULR No: CC31562300000021

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017. This is in compliance with National/International Standards. The piston operated device calibration carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description:	Micropipette	Serial No:	JW01816
Make:	Thermo	ID no:	Nil
Model:	Labpipette	Calibration Points(µl):	5,25,50
Volume Range(µl):	5-50	Condition on Receipt:	Functional
Least Count(µl):	0.5	Accuracy(µl)±:	As per Manual
Location:	Service Lab	No of Channel:	Single-Variable Volume

Environmental conditions:

Temperature(°C):	25±2°C	Relative Humidity(%)	45% to 80 % RH	Air Pressure(hPa):	
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Standard's Traceability Details:

SI.No:	Equipment	SI.No	Calibrating Agency	Traceability No
1	Dig. Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL,Chennai	TVCSPL 22/10/1792-02
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL,Chennai	TVCSPL 22/10/1792-01

Calibration Results (Mechanical-Volume):

Laboratory Procedure No.CCC-WI-01

SI.No.	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty
1	5	5.00	0.00	0.03
2	25	25.00	0.00	0.03
3	50	50.03	-0.03	0.03

As per ISO 8655-2:2002 systematic error, Random error and Error limits:

SI.No:	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst. Error Limits(±µl)	Random Error(µl)
1	5	5.00	0.00	0.12	0.00
2	25	25.00	0.00	0.50	0.06
3	50	50.03	0.03	0.50	0.06

Remarks:

*Calculated Mean Value given is the average of 10 measurements.
*Equipment used for calibration were calibrated & Traceable to National and International standard
The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor k=2
This calibration certificate is valid for scientific & industrial purpose only
SRF No 367-16 * Certificate format No CCC-FR-05
This report refers only to particular item submitted for calibration
Calibrated at In-House Lab

The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2:2002 permissible limits)

Calibrated by


Subashchandrabose



Certificate

CALIBRATION CERTIFICATE

Page No: 1 of 1

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K K Nagar
Chennai
600078

Certificate No **3638**

Received Date 30-Jan-23
Calibration Date 31-Jan-23
Recom Due Date 31-Jan-24
Cert. Issued Date 3-Feb-23
ULR No CC315623000000207F

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017. This is in compliance with National/International Standards. The piston operated device calibration carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description	Micropipette	Serial No.	SW04626
Make	Thermo	ID no.	Nil
Model	F2	Calibration Points(µl)	100,500,1000
Volume Range(µl)	100-1000	Condition on Receipt	Functional
Least Count(µl)	1	Accuracy(µl)±	As per Manual
Location	Service Lab	No of Channel	Single-Variable Volume

Environmental conditions:

Temperature(°C):	25±2°C	Relative Humidity(%)	45% to 80 % RH	Air Pressure(hPa):	1000 ± 20
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Standard's Traceability Details:

Sl.No.	Equipment	Sl.No.	Calibrating Agency	Traceability No	Valid upto
1	Dig Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL,Chennai	TVCSPL 22/10/1792-02	20-Oct-23
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL,Chennai	TVCSPL 22/10/1792-01	20-Oct-23

Calibration Results (Mechanical Volume):

Laboratory Procedure No:CCC-WI-01

Sl.No.	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty(±µl)
1	100	100.15	-0.15	0.30
2	500	500.02	-0.02	0.70
3	1000	1000.77	-0.77	1.02

As per ISO 8655-2:2002 systematic error, Random error and Error limits:


Sl.No.	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst. Error Limits(±µl)	Random Error(µl)	Random Error Limits(±µl)
1	100	100.15	0.15	0.80	0.08	0.30
2	500	500.02	0.02	4.00	0.45	1.50
3	1000	1000.77	0.77	8.00	1.55	3.00

Remarks:

- *Calculated Mean Value given is the average of 10 measurements
- *Equipment used for calibration were calibrated & Traceable to National and International standard
- *The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor k=2
- *This calibration certificate is valid for scientific & industrial purpose only
- *SRF No 367-7 * Certificate format No CCC-FR-05
- *This report refers only to particular item submitted for calibration
- *Calibrated at In-House Lab
- * The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2:2002 permissible limits)

Calibrated by


Subashchandrabose
Calibration Engineer

End of Certificate



Certificate



Scope

Authorised by

M Arivalagan
QM

CALIBRATION CERTIFICATE

Page No: 1 of 1

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K.K. Nagar
Chennai
600078

Certificate No. **3643**

Received Date: 30-Jan-23
Calibration Date: 31-Jan-23
Recom Due Date: 31-Jan-24
Cert Issued Date: 3-Feb-23

ULR No: CC315623000000212F

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017. This is in compliance with National/International Standards. The piston-operated device calibration was carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description	Micropipette	Serial No	W29004
Make	Thermo	ID no	Nil
Model	Finnpipette	Condition on Receipt	Functional
Volume Range(µl)	500	Calibration Points(µl)	500
Least Count(µl)	NA	Accuracy(µl)±	As per Manual
Location	Service Lab	No of Channel	Single-Fixed Volume

Environmental conditions:

Temperature(°C)	25±2°C	Relative Humidity(%)	45% to 80 %	Air Pressure(hPa)	1000 ± 20
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Standard's Traceability Details:

SI No	Equipment	SI No	Calibrating Agency	Traceability No	Valid upto
1	Dig Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL Chennai	TVCSPL 22/10/1792-02	20-Oct-23
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL Chennai	TVCSPL 22/10/1792-01	20-Oct-23

Calibration Results (Mechanical-Volume):

Laboratory Procedure No: CCC-WI-01

SI No	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty(±µl)
1	500	499.90	0.10	0.70

As per ISO 8655-2:2002 systematic error, Random error and Error limits:


SI No	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst Error Limits(±µl)	Random Error(µl)	Random Error Limits(±µl)
1	500	499.90	-0.10	4.00	0.59	1.50

Remarks:

- *Calculated Mean Value given is the average of 10 measurements
- *Equipment used for calibration were calibrated & Traceable to National and International standard
- *The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor k=2
- *This calibration certificate is valid for scientific & industrial purpose only
- *SRF No 367-12 * Certificate format No: CCC-FR-05
- *This report refers only to particular item submitted for calibration
- *Calibrated at In-House Lab
- *The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2:2002 permissible limits)

Calibrated by


Subashchandra Bose
Calibration Engineer

End of Certificate



Certificate



Scope



CALIBRATION CERTIFICATE

Page No 1 of 1

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K.K Nagar
Chennai
500078

Certificate No: **3646**

Received Date: 30-Jan-23
Calibration Date: 31-Jan-23
Recom Due Date: 31-Jan-24
Cert. Issued Date: 3-Feb-23

ULR No: CC315623000000215F

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017. This is in compliance with National/International Standards. The piston-operated device calibration carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description:	Micropipette	Serial No:	HW09289
Make:	Thermo	ID no:	Nil
Model:	Finnpipette	Calibration Points(µl):	20, 100, 200
Volume Range(µl):	20-200	Condition on Receipt:	Functional
Least Count(µl):	1	Accuracy(µl)±:	As per Manual
Location:	Service Lab	No of Channel:	Single-Variable Volume

Environmental conditions:

Temperature(°C):	25±2°C	Relative Humidity(%):	45% to 80 % RH	Air Pressure(hPa):	1000 ± 20
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Standard's Traceability Details:

SI No.	Equipment	SI No.	Calibrating Agency	Traceability No	Valid upto
1	Dig Micro Balance(Used for 1µl to 100µl)	18413362	TVCSPL, Chennai	TVCSPL 22/10/1792-02	20-Oct-23
2	Analytical Balance(Used for 100µl to 10ml)	34893056	TVCSPL, Chennai	TVCSPL 22/10/1792-01	20-Oct-23

Calibration Results (Mechanical-Volume):

Laboratory Procedure No. CCC-WI-01

SI No.	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Error(µl)	Uncertainty(±µl)
1	20	20.04	-0.04	0.30
2	100	100.09	-0.09	0.30
3	200	199.89	0.11	0.70

per ISO 8655-2:2002 systematic error, Random error and Error limits:

SI No.	Device Readings(µl)	Calculated Mean Volume at 27 °C(µl)	Systematic Error(µl)	Syst Error Limits(±µl)	Random Error(µl)	Random Error Limits(±µl)
1	20	20.04	0.04	0.20	0.02	0.10
2	100	100.09	0.09	0.80	0.10	0.30
3	200	199.89	-0.11	1.60	0.20	0.60

Remarks:

Calculated Mean Value given is the average of 10 measurements.
Equipment used for calibration were calibrated & Traceable to National and International standard.
Reported Expanded Uncertainty is calculated at 95.45% C.L. with coverage factor k=2.
Calibration certificate is valid for scientific & industrial purpose only.
ISO 367:15 * Certificate format No CCC-FR-05
Report refers only to particular item submitted for calibration.

Performed at In-House Lab

Report shall not be reproduced except in full without approval of the laboratory.

STATUS: **PASS** (According to ISO 8655-2:2002 permissible limits)

Issued by

S. Srinivasan
Calibration Engineer

End of Certificate



Certificate



Scope

Authorised by

M Arivaigana
QM-1M

K.K Nagar Main Road, | 93822 93522
Chennai - 600 095. | 91235 62922

CALIBRATION CERTIFICATE

Page No: 1 of 1

Customer Details:

ESIC Medical College and Hospital
Microbiology Lab
K K Nagar
Chennai
600078

Certificate No **3642**

Received Date 30-Jan-23
Calibration Date 31-Jan-23
Recom Due Date 31-Jan-24
Cert issued Date 3-Feb-23

ULR No CC315623000000211F

The Chennai Calibration Centre follows the norms of ISO/IEC 17025:2017. This is in compliance with National/International Standards. The piston operated device calibration carried out with respect to standard as per ISO 8655-6:2002.

Unit Under Calibration:

Description	Micropipette	Serial No	W28792
Make	Thermo	ID no	Nil
Model	Finnpipette	Condition on Receipt	Functional
Volume Range(μ l)	100	Calibration Points(μ l)	100
Least Count(μ l)	NA	Accuracy(μ l) \pm	As per Manual
Location	Service Lab	No of Channel	Single-Fixed Volume

Environmental conditions:

Temperature($^{\circ}$ C)	25 \pm 2 $^{\circ}$ C	Relative Humidity(%)	45% to 80 %	Air Pressure(hPa)	1000 \pm 20
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Standard's Traceability Details:

SI No	Equipment	SI No	Calibrating Agency	Traceability No	Valid upto
1	Dig Micro Balance(Used for 1 μ l to 100 μ l)	18413362	TVCSPL Chennai	TVCSPL 22/10/1792-02	20-Oct-23
2	Analytical Balance(Used for 100 μ l to 10ml)	34893056	TVCSPL Chennai	TVCSPL 22/10/1792-01	20-Oct-23

Calibration Results (Mechanical-Volume):

Laboratory Procedure No: CCC-WI-01

SI No	Device Readings(μ l)	Calculated Mean Volume at 27 $^{\circ}$ C(μ l)	Error(μ l)	Uncertainty(\pm μ l)
1	100	100.10	-0.10	0.30

As per ISO 8655-2:2002 systematic error, Random error and Error limits:


SI No	Device Readings(μ l)	Calculated Mean Volume at 27 $^{\circ}$ C(μ l)	Systematic Error(μ l)	Syst Error Limits(\pm μ l)	Random Error(μ l)	Random Error Limits(\pm μ l)
1	100	100.10	0.10	0.80	0.09	0.30

Remarks:

- *Calculated Mean Value given is the average of 10 measurements.
- *Equipment used for calibration were calibrated & Traceable to National and International standard.
- *The reported Expanded Uncertainty is calculated at 95.45 % C.L. with coverage factor k=2
- *This calibration certificate is valid for scientific & industrial purpose only
- *SRF No 367-11 * Certificate format No CCC-FR-05
- *This report refers only to particular item submitted for calibration.
- *Calibrated at In-House Lab
- *The report shall not be reproduced except in full without approval of the laboratory

Status: PASS (According to ISO 8655-2:2002 permissible limits)

Calibrated by


Subashchandrabose
Calibration Engineer

End of Certificate



Certificate



Scope

