Avi Scientific (India)

NABL ACCREDITED CALIBRATION LABORATORY

(Thermal, Pressure, Mass, Volume, RPM)

CC - 2645

CALIBRATION CERTIFICATE

Format No. CC-12G							Page No: 1 of 1
Date of Calibration:	Next Cal. due on:	Date of Issue:	ULR No.:				CC264524000000016F
15.01.2024	14.01.2025	16.01.2024	Certificate No:				AVI 2401016
SRF No. 2400014	SRF Date	15.01.2024	Job No.	2401016	Job Date	15.01.2024	
Discipline : Mechanical			**Group : Volume**				

Customer's Name & Address:	**Shri Mahavir Medical Centre** Shop No.4/5, Bhanukant Complex, Aarey Checknaka, Goregaon (E) Mumbai-400063
Customer Reference/Challan No	_
Receipt Date	15.01.2024
Condition on receipt	Satisfactory
Calibration Carried out:	INHOUSE
Description of item Calibrated:	
Instrument	**Micropipipette**
Make	Labserv
Model	_
Serial No.	HW02502
Identification No.	SMMC/INST/09
Range	100 to 1000 µl
Least Count	5 µl
Accuracy	_
Location	_
Work Instruction No.	AVI/WI-12

Envirnmental Condition				
Water Temp	23.5	Temp. (°C):	(25 ±2)	
Z correction factor	1.0036	Relative Humidity (% RH)	(40 - 60)	
		Atmospheric Pressure (hpa)	970-1030	

Equipment & Master Used for Calibration — **Used Standard equipments are traceable to the National Standard.**

Equipment	Sr.No./ ID No.	Certificate No	Validity up to	Traceability with
Digital Weighing Balance	AVI/DWB/04	AVI 2309010	10.09.2024	AVI Scientfic (India),CC2645

OBSERVATION TABLE

Uni of Measurement µl

Sr No.	UUC Reading	Standard Reading	Systematic error	Accuracy (A) as per ISO 8655-2	Random error	Random error as per ISO 8655-2	Expanded Uncertainty (±)	Status
1	100	101.19	-1.19	0.8	0.000332	0.3	0.28	Within Accuracy
2	500	500.45	-0.45	4.0	0.000426	1.5	0.28	Within Accuracy
3	1000	1002.02	-2.02	8.0	0.000675	3	0.28	Within Accuracy

(The reported expanded uncertainty of measurement is multiplied by coveragefactor k=2,which corresponds to a coverge probability of approximately 95% for a normal distribution)

Note: Abvoe readings are the avearage of 10 readings.

Calibrated By

(Niranjan Rajguru)
Calibration Engineer

Authorized Signatory

(Janardan Chavan)
Technical Manager

——End of the certificate ——

Please Refer Note Backside of the Page

A - 221, Amargian Indl. Complex, Opp. New S.T. Stand, Khopat, Thane (W) - 400 601. (Mumbai).
Tel.: 022 - 2547 76 38 / 40 • Email : calibration@aviscientific.com, md@aviscientific.com
www.aviscientificindia.com

ARCHERCAL Private Limited
(Formerly known as Archerchem Calibrations Pvt Ltd)
Laboratory : Unit No. B/103, Tanvi's Tanishka Industrial Estate, Tanvi Complex,
Near HP Petrol Pump, Dahisar (East), Mumbai - 400 068. India. • **Tel.**: +91 22 20892984
E-mail : sales1@archercal.com / admin@archercal.com • **Website** : www@archercal.com
CIN : U74999MH2018PTC304510

CC-3772

Redefining Accuracy

CALIBRATION CERTIFICATE

7.8/R/M&V-01,Rev:00

Certificate No.: ACPL/MV/L/0206/01/23-24
ULR No.: CC377224000001222F

Date of Calibration:	01-02-2024	**Issue Date:**	02-02-2024
Next Calibration Due Date:	31-07-2024	**Page:**	01 of 02

CUSTOMER NAME & ADDRESS : **SHREE MAHAVIR MEDICAL CENTRE.**
Shop 4/5 , Bhanukant Complex, Checknaka, Aarey Colony,
Goregoan (East),Mumbai -400 063.

DATE OF RECEIPT : 30-01-2024

CALIBRATED AT : Lab

INSTRUMENT : **Micropipette**

ID. NO. : **SMMC/INST/07**

CONDITION OF ITEM : Good

CALIBRATION PROCEDURE : WI/APL/CAL/MV/04
ISO 8655-6 (Latest Edition)

ENVIRONMENTAL CONDITION :

Temperature :	23 ± 1 °C
Air Pressure :	1010 ± 30 hPa
Relative Humidity :	50 ± 10 % RH
Water Temperature:	21.5 °C
Z Correction Factor (µl/mg)	1.00336
Y Correction Factor ((1/°C)x°C)	1.00207

TRACEABILITY : This Certificate is issued in the field of calibration and provides traceability of measurement results to International systems of units (SI)

CALIBRATIONS RESULTS : The results have been presented on pages(s) 2 of this certificate including uncertainty of measurements.

UNCERTAINTY OF MEASUREMENT : The uncertainty stated is the expanded uncertainty of measurement obtained by multiplying the standard uncertainty by the coverage factor k=2 correspondes to confidence level of 95%.

CONFORMITY STATEMENT : On the Basis of Calibration results, it has been found that instruments submitted for calibration meets the requirements specified in manufactuers specification & ISO8655-2:2002 (E).

REMARKS : The measured values mentioned are the average of 10 readings

: The Reported Volume at 27°C is by the formula,
V_{27}°C (µl)=m(mg) x Z(µl/mg) x Y((1/°C)x°C).

: The test liquid used for calibration is distilled water as per ISO3696 requirement.

Calibrated By:
For
Prathamesh Mestri
Calibration Engineer

ARCHERCAL PRIVATE LIMITED MUMBAI

Approved By :
Kailas Chilap
Technical Director

ARCHERCAL Private Limited

(Formerly known as Archerchem Calibrations Pvt Ltd)

Laboratory : Unit No. B/103, Tanvi's Tanishka Industrial Estate, Tanvi Complex, Near HP Petrol Pump, Dahisar (East), Mumbai - 400 068. India. • **Tel.**: +91 22 20892984

E-mail : sales1@archercal.com / admin@archercal.com • **Website** : www@archercal.com

CIN : U74999MH2018PTC304510

CC-3772

Redefining Accuracy

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Date of Calibration:	01-02-2024	**Issue Date:**	02-02-2024
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Micropipette

Make :	Labserv	**Range :**	5 to 50 µl
Model :	---	**Least Count :**	0.5 µl
Sr.No. :	HW01104	**Accuracy :**	As per ISO 8655-2
Tag/Id.No. :	SMMC/INST/07	**Location**	---

Discipline : Mechanical Calibration | **Product Group :** Mass & Volume - Volume

Measurement Result :

Sr. No.	Nominal Volume in µl	1	2	3	4	5	6	7	8	9	10	Volume at 27°C (Average) in µl
		Mass of Water in mg										
1	5	5.007	5.006	5.083	5.096	5.112	5.002	5.043	5.021	5.011	5.003	**5.066**
2	25	24.880	24.856	24.862	24.888	24.856	24.862	24.890	24.896	24.873	24.869	**25.009**
3	50	49.933	49.911	49.984	49.967	49.903	49.943	49.922	49.987	49.906	49.961	**50.213**

Error (A) in µl	Accuracy (± A) as per ISO 8655 in µl	Precision (σ) in µl	Precision (± CV) as per ISO 8655 in µl	Expanded Uncertainty (±) in µl	Status
0.066	0.50	0.043	0.20	0.015	Within Accuracy
0.009	0.50	0.015	0.20	0.015	Within Accuracy
0.213	0.50	0.032	0.20	0.015	Within Accuracy

REFERENCE STANDARDS USED

DESCRIPTION	RANGE	Sr.No./ ID.NO.	TRACEABILITY	VALID UPTO
Digital Micro Balance	Max Capacity : 0 - 5.1 g	513955/ ACPL/MUM/M&V/01	ACPL,MUMBAI (ACPL/MV/L/0919/01/23-24)	31-05-2024

NOTE

: The report refer only the particular item calibrated at site / laboratory.
: The calibration result reported are valid at the time of and under the condition of measurement
: Certificate should not be reproduced, except in full without the prior permission of Laboratory
: Any correction in this certificate invalidates the certificate
: The calibration of under test is meant for scientific and industrial purpose only.

Calibrated By:

for

Prathamesh Mestri
Calibration Engineer

ARCHERCAL PRIVATE LIMITED MUMBAI

Approved By :

Kailas Chilap
Technical Director

********** End of Certificate **********