

# THE PIPETEMANN

NABL ACCREDITED CALIBRATION LABORATORY

ADDING ACCURACY TO YOUR EQUIPMENT

MASS - VOLUME - THERMAL - SPEED - PRESSURE - TIMER - ELECTRO TECHNICAL



## CALIBRATION CERTIFICATE

CUSTOMER ADDRESS : M/s. DOCTORS LABORATORY,  
14Q-2, NETHAJI BY-PASS ROAD,  
OPP. GOVT HOSPITAL,  
DHARMAPURI 636701  
Phone No.: 9786084415

UNIQUE LAB REPORT NUMBER : ULR-CC231722000000721F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC220250790	DATE OF ISSUE : 22-02-2022
RECEIPT NO : 10642	TEMPERATURE : 23.6 °C
RECEIPT DATE : 18-02-2022	HUMIDITY : 56 %
JOB CARD NO : TPM838022249213	AIR PRESSURE : 962 hpa
JOB CARD DATE : 18-02-2022	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : PIPETEMANN	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 5 - 50 µl	DENSITY CORRECTION FACTOR [Z] : 1.0035 µl/mg
SERIAL NO : YE19BAL0612516	CALIBRATION METHOD : ISO 8655:2002 PART - 6
TIPS USED : 200 µl	WEIGHING BALANCE : MICRO BALANCE
SCOPE OF ACCREDITATION : VOLUME - MICROPIPETTE ( 1 µl - 10000 µl )	

## DETAILS OF MASTER EQUIPMENTS USED FOR CALIBRATION

MASTER EQUIPMENT : SARTORIUS MICRO BALANCE  
SL.NO : 28001417  
RESOLUTION : 0.000001g upto 6.1g  
CALIBRATED BY : THE PIPETEMANN(MASS),COIMBATORE  
CERTIFICATE NUMBER : TPMCCM21030288  
CALIBRATION VALIDITY : 01-03-2022  
TRACEABILITY : NATIONAL STANDARDS

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CERTIFICATE NO : TPMCC220250790

**CALIBRATED PARAMETER** : VOLUME

**NO.OF MEASUREMENTS** : 10

I) **SELECTED VOLUME** : 50  $\mu$ l

49.94 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l	49.95 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l	49.94 $\mu$ l
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MEAN VALUE : 49.94  $\mu$ l  
SYSTEMATIC ERROR(es) : -0.06  $\mu$ l  
RANDOM ERROR (Sr) : 0  $\mu$ l

Standard Limit Value  
( $\pm 0.5$   $\mu$ l)  
( $\pm 0.2$   $\mu$ l)

II) **SELECTED VOLUME** : 25  $\mu$ l

24.76 $\mu$ l	24.78 $\mu$ l	24.76 $\mu$ l	24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l
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MEAN VALUE : 24.76  $\mu$ l  
SYSTEMATIC ERROR(es) : -0.24  $\mu$ l  
RANDOM ERROR (Sr) : 0.01  $\mu$ l

Standard Limit Value  
( $\pm 0.5$   $\mu$ l)  
( $\pm 0.2$   $\mu$ l)

III) **SELECTED VOLUME** : 5  $\mu$ l

4.98 $\mu$ l	4.99 $\mu$ l	4.98 $\mu$ l	4.98 $\mu$ l	4.96 $\mu$ l	4.98 $\mu$ l	5.01 $\mu$ l	4.99 $\mu$ l	4.98 $\mu$ l	4.98 $\mu$ l
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MEAN VALUE : 4.98  $\mu$ l  
SYSTEMATIC ERROR(es) : -0.02  $\mu$ l  
RANDOM ERROR (Sr) : 0.01  $\mu$ l

Standard Limit Value  
( $\pm 0.125$   $\mu$ l)  
( $\pm 0.075$   $\mu$ l)

CALIBRATED ON : 22-02-2022

CALIBRATION DUE ON : 21-02-2023

### RESULTS :

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
50 $\mu$ l	0.01 $\mu$ l	0.01 $\mu$ l
25 $\mu$ l	0.01 $\mu$ l	0.01 $\mu$ l
5 $\mu$ l	0.01 $\mu$ l	0.01 $\mu$ l

With coverage factor k is 2 for effective degrees of freedom is  $\infty$  and the confidence level is 95%

CALIBRATED BY :

(M.VINOTH KUMAR)  
DEPUTY TECHNICAL MANAGER

APPROVED BY :

(K.BALAMAYURPRIYAN)  
TECHNICAL MANAGER.

- NOTE : 1.Master equipments used for calibration are traceable to National standards  
2.The calibration reported are valid at the time of and under the stated conditions of the measurement  
3.Results presented in this certificate relate only to the item mentioned & calibrated at **THE PIPETEMANN**  
4.This certificate shall not be reproduced except in full without written approval of **THE PIPETEMANN**