

# THE PIPETEMANN

NABL ACCREDITED CALIBRATION LABORATORY  
ADDING ACCURACY TO YOUR EQUIPMENT

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



CC - 2317

## CALIBRATION CERTIFICATE

CUSTOMER ADDRESS : M/s. THE BLOCK MEDICAL OFFICER (TPM 364/17), GOVT.UPGRADED PRIMARY HEALTH CENTRE, AGASTEESWARAM,  KANYAKUMARI 629156 Phone No.: 04652-270352	
UNIQUE LAB REPORT NUMBER : ULR-CC231723000000804F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC230256515	DATE OF ISSUE : 10-02-2023
RECEIPT NO : 11584	TEMPERATURE : 23.4 °C
RECEIPT DATE : 10-02-2023	HUMIDITY : 57 %
JOB CARD NO : TPM364022354938	AIR PRESSURE : 963 hpa
JOB CARD DATE : 10-02-2023	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : DRAGON LAB	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 5 - 50 µl	DENSITY CORRECTION FACTOR [Z] : 1.0035 µl/mg
SERIAL NO : YE5A425726	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	: TPMCCM22030365
CALIBRATION VALIDITY	: 28-02-2023
TRACEABILITY	: NATIONAL STANDARDS

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CERTIFICATE NO : TPMCC230256515

**CALIBRATED PARAMETER** : VOLUME  
**NO.OF MEASUREMENTS** : 10

I) **SELECTED VOLUME** : 50 µl

49.91 µl	49.9 µl	49.94 µl	49.9 µl	49.89 µl	49.91 µl	49.94 µl	49.89 µl	49.91 µl	49.94 µl
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**MEAN VALUE** : 49.91 µl  
**SYSTEMATIC ERROR(es)** : -0.09 µl  
**RANDOM ERROR (Sr)** : 0.02 µl

**Standard Limit Value**  
 (±0.5 µl)  
 (±0.2 µl)

II) **SELECTED VOLUME** : 25 µl

24.76 µl	24.74 µl	24.78 µl	24.74 µl	24.72 µl	24.7 µl	24.74 µl	24.78 µl	24.72 µl	24.78 µl
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**MEAN VALUE** : 24.75 µl  
**SYSTEMATIC ERROR(es)** : -0.25 µl  
**RANDOM ERROR (Sr)** : 0.03 µl

**Standard Limit Value**  
 (±0.5 µl)  
 (±0.2 µl)

III) **SELECTED VOLUME** : 5 µl

4.96 µl	4.99 µl	4.95 µl	4.98 µl	4.99 µl	4.96 µl	4.97 µl	4.98 µl	4.95 µl	4.99 µl
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**MEAN VALUE** : 4.97 µl  
**SYSTEMATIC ERROR(es)** : -0.03 µl  
**RANDOM ERROR (Sr)** : 0.02 µl

**Standard Limit Value**  
 (±0.125 µl)  
 (±0.075 µl)

**CALIBRATED ON** : 10-02-2023 **CALIBRATION DUE ON** : 09-08-2023

**RESULTS :**

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
50 µl	0.03 µl	0.03 µl
25 µl	0.03 µl	0.03 µl
5 µl	0.03 µl	0.03 µl

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

**CALIBRATED BY :**

*P. Vignesh*  
 (P.VIGNESH)  
 CALIBRATION ENGINEER

**APPROVED BY :**

*K. Balamayurpriyan*  
 (K.BALAMAYURPRIYAN)  
 TECHNICAL MANAGER.

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

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ADDING ACCURACY TO YOUR EQUIPMENT

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



## CALIBRATION CERTIFICATE

CUSTOMER ADDRESS : M/s. THE BLOCK MEDICAL OFFICER (TPM 364/17),  
GOVT.UPGRADED PRIMARY HEALTH CENTRE,  
AGASTEESWARAM

KANYAKUMARI 629156  
Phone No.:

UNIQUE LAB REPORT NUMBER : ULR-CC23172300000805F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC230256516	DATE OF ISSUE : 10-02-2023
RECEIPT NO : 11584	TEMPERATURE : 23.6 °C
RECEIPT DATE : 10-02-2023	HUMIDITY : 52 %
JOB CARD NO : TPM364022354939	AIR PRESSURE : 962 hpa
JOB CARD DATE : 10-02-2023	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : DRAGON LAB	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 100 - 1000 µl	DENSITY CORRECTION FACTOR [Z] : 1.0033 µl/mg
SERIAL NO : YE4A221807	CALIBRATION METHOD : ISO 8655:2002 PART - 6
TIPS USED : 1000 µl	WEIGHING BALANCE : SEMI MICRO BALANCE
SCOPE OF ACCREDITATION : VOLUME - MICROPIPETTE ( 1 µl - 10000 µl )	

## DETAILS OF MASTER EQUIPMENTS USED FOR CALIBRATION

MASTER EQUIPMENT : SHIMADZU  
SL.NO : D450020184  
RESOLUTION : 0.00001g upto 82g & above is 0.0001g  
CALIBRATED BY : THE PIPETEMANN (MASS), COIMBATORE  
CERTIFICATE NUMBER : TPMCCM23020418  
CALIBRATION VALIDITY : 03-02-2024  
TRACEABILITY : NATIONAL STANDARDS

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 ADDING ACCURACY TO YOUR EQUIPMENT  
 MASS - VOLUME - THERMAL - SPEED - PRESSURE - TIMER - ELECTRO TECHNICAL



CERTIFICATE NO : TPMCC230256516

**CALIBRATED PARAMETER** : VOLUME  
**NO.OF MEASUREMENTS** : 10

I) SELECTED VOLUME : 1000 µl

999.99 µl	1000.1 µl	1000.04 µl	1000.1 µl	999.58 µl	999.7 µl	999.9 µl	1000.04 µl	1000.1 µl	1000.04 µl
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MEAN VALUE : 999.96 µl  
 SYSTEMATIC ERROR(es) : -0.04 µl  
 RANDOM ERROR (Sr) : 0.18 µl

Standard Limit Value  
 (±8.0 µl)  
 (±3.0 µl)

II) SELECTED VOLUME : 500 µl

499.25 µl	499.34 µl	499.29 µl	499.25 µl	499.23 µl	499.25 µl	499.35 µl	499.25 µl	499.29 µl	499.35 µl
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MEAN VALUE : 499.28 µl  
 SYSTEMATIC ERROR(es) : -0.72 µl  
 RANDOM ERROR (Sr) : 0.05 µl

Standard Limit Value  
 (±4.0 µl)  
 (±1.5 µl)

III) SELECTED VOLUME : 100 µl

99.83 µl	99.94 µl	100.05 µl	99.94 µl	100.03 µl	99.74 µl	99.89 µl	99.94 µl	100.04 µl	99.94 µl
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MEAN VALUE : 99.93 µl  
 SYSTEMATIC ERROR(es) : -0.07 µl  
 RANDOM ERROR (Sr) : 0.1 µl

Standard Limit Value  
 (±0.8 µl)  
 (±0.3 µl)

CALIBRATED ON : 10-02-2023

CALIBRATION DUE ON : 09-08-2023

**RESULTS :**

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
1000 µl	0.50 µl	0.50 µl
500 µl	0.50 µl	0.50 µl
100 µl	0.04 µl	0.04 µl

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

CALIBRATED BY :

(M.VINOTH KUMAR)

DEPUTY TECHNICAL MANAGER

APPROVED BY :

(K.BALAMAYURPRIYAN)

TECHNICAL MANAGER.

- NOTE :
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