

# 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. THE MEDICAL OFFICER(TPM 380/3)  
GOVT PRIMARY HEALTH CENTRE,  
DHALAVAIPATTINAM,  
DHARAPURAM,  
TIRUPUR 638672  
Phone No.: 9994305928

UNIQUE LAB REPORT NUMBER : ULR-CC231722000001455F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC220451524	DATE OF ISSUE : 09-04-2022
RECEIPT NO : 10774	TEMPERATURE : 23.6 °C
RECEIPT DATE : 06-04-2022	HUMIDITY : 56 %
JOB CARD NO : TPM380042249947	AIR PRESSURE : 966 hpa
JOB CARD DATE : 06-04-2022	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : FINNPIPETTE - F3	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 10 - 100 µl	DENSITY CORRECTION FACTOR [Z] : 1.0033 µl/mg
SERIAL NO : RW10978	CALIBRATION METHOD : ISO 8655:2002 PART - 6
TIPS USED : 200 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 : TPMCCM22020355  
CALIBRATION VALIDITY : 03-02-2023  
TRACEABILITY : NATIONAL STANDARDS

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CERTIFICATE NO : TPMCC220451524

CALIBRATED PARAMETER : VOLUME

NO.OF MEASUREMENTS : 10

I) SELECTED VOLUME : 100 µl

99.94 µl	99.74 µl	99.94 µl	99.94 µl	99.82 µl	99.54 µl	99.74 µl	99.89 µl	99.74 µl	99.93 µl
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MEAN VALUE : 99.82 µl  
 SYSTEMATIC ERROR(es) : -0.18 µl  
 RANDOM ERROR (Sr) : 0.13 µl

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

II) SELECTED VOLUME : 50 µl

49.77 µl	49.88 µl	49.77 µl	49.77 µl	49.57 µl	49.72 µl	49.77 µl	49.77 µl	49.86 µl	49.77 µl
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MEAN VALUE : 49.76 µl  
 SYSTEMATIC ERROR(es) : -0.24 µl  
 RANDOM ERROR (Sr) : 0.08 µl

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

III) SELECTED VOLUME : 10 µl

9.97 µl	9.97 µl	9.99 µl	9.98 µl	9.99 µl	9.93 µl	9.98 µl	9.99 µl	9.97 µl	9.97 µl
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MEAN VALUE : 9.97 µl  
 SYSTEMATIC ERROR(es) : -0.03 µl  
 RANDOM ERROR (Sr) : 0.02 µl

Standard Limit Value  
 (±0.12 µl)  
 (±0.08 µl)

CALIBRATED ON : 09-04-2022

CALIBRATION DUE ON : 08-10-2022

**RESULTS :**

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
100 µl	0.09 µl	0.04 µl
50 µl	0.01 µl	0.01 µl
10 µl	0.01 µl	0.01 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.BALA MAJUR PRIYAN)  
 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

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MASS - VOLUME - THERMAL - SPEED - PRESSURE - TIMER - ELECTROTECHNICAL



## CALIBRATION CERTIFICATE

CUSTOMER ADDRESS : M/s. THE MEDICAL OFFICER (TPM 380), GOVT. PRIMARY HEALTH CENTRE, DHALAVAIPATTINAM, DHARAPURAM, TIRUPUR 638672 Phone No.: 9994305928	
UNIQUE LAB REPORT NUMBER : ULR-CC231722000001456F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC220451525	DATE OF ISSUE : 09-04-2022
RECEIPT NO : 10774	TEMPERATURE : 23.6 °C
RECEIPT DATE : 06-04-2022	HUMIDITY : 58 %
JOB CARD NO : TPM380042249948	AIR PRESSURE : 960 hpa
JOB CARD DATE : 06-04-2022	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : FINNPIPETTE - F3	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 100 - 1000 µl	DENSITY CORRECTION FACTOR [Z] : 1.0035 µl/mg
SERIAL NO : PW01834	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 : TPMCCM22020355  
CALIBRATION VALIDITY : 03-02-2023  
TRACEABILITY : NATIONAL STANDARDS

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



CERTIFICATE NO : TPMCC220451525

**CALIBRATED PARAMETER : VOLUME**

**NO.OF MEASUREMENTS : 10**

**I) SELECTED VOLUME : 1000  $\mu$ l**

1001.1 $\mu$ l	1001.2 $\mu$ l	1001.1 $\mu$ l	1001.1 $\mu$ l	1001.09 $\mu$ l	1000.9 $\mu$ l	1000.99 $\mu$ l	1000.9 $\mu$ l	1001.1 $\mu$ l	1001.18 $\mu$ l
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MEAN VALUE : 1001.07  $\mu$ l

SYSTEMATIC ERROR(es) : 1.07  $\mu$ l

RANDOM ERROR (Sr) : 0.1  $\mu$ l

Standard Limit Value

( $\pm$ 8.0  $\mu$ l)

( $\pm$ 3.0  $\mu$ l)

**II) SELECTED VOLUME : 500  $\mu$ l**

499.35 $\mu$ l	499.35 $\mu$ l	499.39 $\mu$ l	499.35 $\mu$ l	499.35 $\mu$ l	499.39 $\mu$ l	499.35 $\mu$ l	499.43 $\mu$ l	499.44 $\mu$ l	499.35 $\mu$ l
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MEAN VALUE : 499.38  $\mu$ l

SYSTEMATIC ERROR(es) : -0.62  $\mu$ l

RANDOM ERROR (Sr) : 0.04  $\mu$ l

Standard Limit Value

( $\pm$ 4.0  $\mu$ l)

( $\pm$ 1.5  $\mu$ l)

**III) SELECTED VOLUME : 100  $\mu$ l**

100.04 $\mu$ l	100.07 $\mu$ l	100.04 $\mu$ l	99.76 $\mu$ l	99.91 $\mu$ l	99.76 $\mu$ l	99.95 $\mu$ l	100.05 $\mu$ l	99.96 $\mu$ l	99.76 $\mu$ l
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MEAN VALUE : 99.93  $\mu$ l

SYSTEMATIC ERROR(es) : -0.07  $\mu$ l

RANDOM ERROR (Sr) : 0.13  $\mu$ l

Standard Limit Value

( $\pm$ 0.8  $\mu$ l)

( $\pm$ 0.3  $\mu$ l)

CALIBRATED ON : 09-04-2022

CALIBRATION DUE ON : 08-10-2022

## RESULTS :

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
1000 $\mu$ l	0.07 $\mu$ l	0.07 $\mu$ l
500 $\mu$ l	0.10 $\mu$ l	0.10 $\mu$ l
100 $\mu$ l	0.04 $\mu$ l	0.04 $\mu$ 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.BALA MAYUR PRIYAN)

TECHNICAL MANAGER

NOTE : 1.Master equipments used for calibration are traceable to National standards

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## CALIBRATION CERTIFICATE

CUSTOMER ADDRESS : M/s. THE MEDICAL OFFICER (TPM 380),  
GOVT. PRIMARY HEALTH CENTRE,  
DHALAVAIPATTINAM,  
DHARAPURAM,  
TIRUPUR 638672  
Phone No.: 9994305928

UNIQUE LAB REPORT NUMBER : ULR-CC231722000001454F	DISCIPLINE : MECHANICAL CALIBRATION
NAME OF EQUIPMENT : MICROPIPETTE	PARAMETER : VOLUME
CERTIFICATE NO : TPMCC220451523	DATE OF ISSUE : 09-04-2022
RECEIPT NO : 10774	TEMPERATURE : 23.6 °C
RECEIPT DATE : 06-04-2022	HUMIDITY : 58 %
JOB CARD NO : TPM380042249946	AIR PRESSURE : 962 hpa
JOB CARD DATE : 06-04-2022	MEDIUM OF WEIGHING : GRADE III WATER
BRAND : FINNPIPETTE - F3	DENSITY OF MEDIUM : APPROXIMATELY 1
RANGE : 5 - 50 µl	DENSITY CORRECTION FACTOR [Z] : 1.0035 µl/mg
SERIAL NO : PW03000	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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MASS - VOLUME - THERMAL - SPEED - PRESSURE - TIMER - ELECTRO TECHNICAL



CERTIFICATE NO : TPMCC220451523

CALIBRATED PARAMETER : VOLUME  
NO.OF MEASUREMENTS : 10

I) SELECTED VOLUME : 50  $\mu$ l

49.84 $\mu$ l	49.85 $\mu$ l	49.8 $\mu$ l	49.78 $\mu$ l	49.79 $\mu$ l	49.83 $\mu$ l	49.84 $\mu$ l	49.82 $\mu$ l	49.84 $\mu$ l	49.85 $\mu$ l
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MEAN VALUE : 49.82  $\mu$ l  
SYSTEMATIC ERROR(es) : -0.18  $\mu$ l  
RANDOM ERROR (Sr) : 0.03  $\mu$ l

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

II) SELECTED VOLUME : 25  $\mu$ l

24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l	24.76 $\mu$ l	24.76 $\mu$ l	24.77 $\mu$ l	24.76 $\mu$ l	24.78 $\mu$ 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

4.96 $\mu$ l	4.98 $\mu$ l	4.97 $\mu$ l	4.98 $\mu$ l	4.96 $\mu$ l	4.97 $\mu$ l	4.98 $\mu$ l	4.99 $\mu$ l	4.98 $\mu$ l	4.97 $\mu$ l
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MEAN VALUE : 4.97  $\mu$ l  
SYSTEMATIC ERROR(es) : -0.03  $\mu$ l  
RANDOM ERROR (Sr) : 0.01  $\mu$ l

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

CALIBRATED ON : 09-04-2022

CALIBRATION DUE ON : 08-10-2022

### RESULTS :

RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)
50 $\mu$ l	0.02 $\mu$ 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.BALA MAYUR PRIYAN)  
TECHNICAL MANAGER

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