

THE PIPETTEMANN

NABL ACCREDITED CALIBRATION LABORATORY
ADDING ACCURACY TO YOUR EQUIPMENT
MASS - VOLUME - THERMAL - SPEED - PRESSURE - TIMER - ELECTRO TECHNICAL



CERTIFICATE NO : TPMCC230959915

CALIBRATED PARAMETER : VOLUME			
NO.OF MEASUREMENTS : 10			
I) SELECTED VOLUME : 100 μ l			
99.7 μ l	99.81 μ l	99.76 μ l	
99.84 μ l	99.91 μ l	99.86 μ l	
99.78 μ l	99.86 μ l	99.77 μ l	99.86 μ l
MEAN VALUE	: 99.82 μ l	Standard Limit Value	
SYSTEMATIC ERROR(es)	: -0.18 μ l	($\pm 0.8 \mu$ l)	
RANDOM ERROR (Sr)	: 0.06 μ l	($\pm 0.3 \mu$ l)	
II) SELECTED VOLUME : 50 μ l			
49.75 μ l	49.72 μ l	49.86 μ l	
49.74 μ l	49.86 μ l	49.91 μ l	
49.77 μ l	49.91 μ l	49.82 μ l	49.74 μ l
MEAN VALUE	: 49.81 μ l	Standard Limit Value	
SYSTEMATIC ERROR(es)	: -0.19 μ l	($\pm 0.5 \mu$ l)	
RANDOM ERROR (Sr)	: 0.07 μ l	($\pm 0.2 \mu$ l)	
III) SELECTED VOLUME : 10 μ l			
10.02 μ l	9.94 μ l	9.97 μ l	
9.98 μ l	9.96 μ l	9.99 μ l	10 μ l
9.97 μ l	9.96 μ l	10 μ l	
MEAN VALUE	: 9.98 μ l	Standard Limit Value	
SYSTEMATIC ERROR(es)	: -0.02 μ l	($\pm 0.12 \mu$ l)	
RANDOM ERROR (Sr)	: 0.02 μ l	($\pm 0.08 \mu$ l)	
CALIBRATED ON	: 26-09-2023	CALIBRATION DUE ON : 25-09-2024	
RESULTS :			
RANGE	MEASUREMENT UNCERTAINTY	CMC (approved by NABL)	
100 μ l	0.05 μ l	0.04 μ l	
50 μ l	0.03 μ l	0.03 μ l	
10 μ l	0.03 μ l	0.03 μ l	
With coverage factor k is 2 for effective degress of freedom is ∞ and the confidence level is 95%			
CALIBRATED BY : (P. VIGNESH) CALIBRATION ENGINEER		APPROVED BY : (K. BALA MAYUR 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 PIPETTEMANN 4.This certificate shall not be reproduced except in full without written approval of THE PIPETTEMANN			