

# VERTEX<sup>®</sup> CALIBRATION REPORT

VOLUME : 1000  $\mu$ l  
 REF. NO. : 600900  
 SERIAL NO. : 023057616  
 CAL DATE : 27/07/2023  
 DUE ON : 26/07/2024  
 MANUFACTURER : RVIPL  
 MICROTIP : 200-1000  $\mu$ l  
 OPERATOR : 2

TEMPERATURE : 25°C  
 AIR PRESSURE : 992hpa  
 HUMIDITY : 60%  
 Z FACTOR : 1.004  $\mu$ l/mg  
 BALANCE : GR202 AND (JAPAN)  
 BALANCE SR. NO. : 14219380  
 BALANCE CAL. DUE : 21/12/2023  
 METHOD : DIN / EN / ISO 8655 (PART 2-6)

## Q.C-I : PHYSICAL INSPECTION

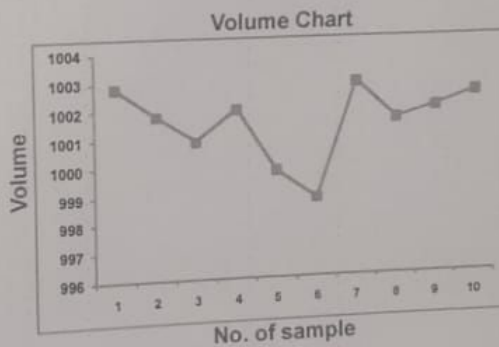
NUMBER.	1	2	3	4	5	6	7	8
SPARE PARTS.	DIGITS	PISTON	SPRING SUPPORT	SPRING	SHAFT	TIP EJECTOR	TIP CONE	HANDLE MECHANISM
RESULT	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

## Q.C-II : CALIBRATION READINGS

SAMPLE	1	2	3	4	5	6	7	8	9	10
TEST VOL ( $\mu$ l)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
WEIGHT (mg)	998.80	997.60	996.90	998.00	995.80	994.90	998.90	997.60	998.00	998.60
VOLUME ( $\mu$ l)	1002.80	1001.80	1000.80	1001.99	999.80	998.88	1002.60	1001.80	1001.90	1002.60

## SUMMARY STATISTICS

VOLUME $\mu$ l	MEAN	SD	EXPANDED UNCERTAINTY IN $\mu$ l AT k = 2			
			ACTUAL	TARGET	ACTUAL	TARGET
1000	1000.315	0.1616	0.3147	$\pm 1.5$	0.1611	$\pm 0.5$



Operated By :

Inspected By :

Sign :

Sign :

- \* THE REPORTED EXPANDED UNCERTAINTY IS AT COVERAGE FACTOR  $K = 2 \pm (199.9999g)$ , WHICH CORRESPONDS TO A COVERAGE PROBABILITY OF APPROXIMATELY 95% FOR A NORMAL DISTRIBUTION
- \* METHOD BASED ON ISO / DIN / EN 8655 ( PART 2 , 6 )
- \* STANDARDS USED ON CALIBRATION WERE TRACEABLE TO NPL, DELHI.
- \* NOTE : THIS CERTIFICATE REFER ONLY TO THE PARICULAR ITEM (S) SUBMITTED FOR CALIBRATION



# VERTEX<sup>®</sup> CALIBRATION REPORT

VOLUME : 50  $\mu$ l  
 REF. NO. : 600800  
 SERIAL NO. : 023057635  
 CAL DATE : 27/07/2023  
 DUE ON : 26/07/2024  
 MANUFACTURER : RVIPL  
 MICROTIP : 2-200  $\mu$ l  
 OPERATOR : 2

TEMPERATURE : 26°C  
 AIR PRESSURE : 992hpa  
 HUMIDITY : 60%  
 Z FACTOR : 1.004  $\mu$ l/mg  
 BALANCE : GR202 AND (JAPAN)  
 BALANCE SR. NO. : 14219380  
 BALANCE CAL. DUE : 21/12/2023  
 METHOD : DIN / EN / ISO 8655 (PART 2-6)

## Q.C-I : PHYSICAL INSPECTION

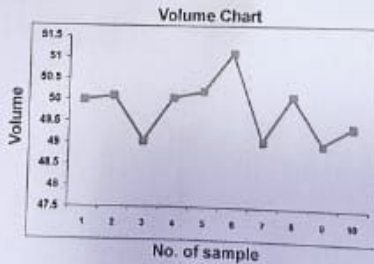
NUMBER	1	2	3	4	5	6	7	8
SPARE PARTS	DIGITS	PISTON	SPRING SUPPORT	SPRING	SHAFT	TIP EJECTOR	TIP CONE	HANDLE MECHANISM
RESULT	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

## Q.C-II : CALIBRATION READINGS

SAMPLE	1	2	3	4	5	6	7	8	9	10
TEST VOL. ( $\mu$ l)	50	50	50	50	50	50	50	50	50	50
WEIGHT (mg)	49.80	49.90	49.85	49.85	50.00	49.90	48.85	49.90	48.80	49.20
VOLUME ( $\mu$ l)	50.00	50.10	49.05	50.05	50.20	51.10	49.65	50.10	49.00	49.40

## SUMMARY STATISTICS

VOLUME $\mu$ l	MEAN	SD	EXPANDED UNCERTAINTY IN $\mu$ l AT k = 2			
			ACTUAL	TARGET	ACTUAL	TARGET
50.0	50.07	0.058	0.150	50.750	-0.015	52.0



Operated By :

Sign :

Inspected By :

Sign :



- THE REPORTED EXPANDED UNCERTAINTY IS AT COVERAGE FACTOR  $k = 2$  (199.9995 $\sigma$ ), WHICH CORRESPONDS TO A COVERAGE PROBABILITY OF APPROXIMATELY 95% FOR A NORMAL DISTRIBUTION
- METHOD BASED ON ISO / DIN / EN 8655 (PART 2, 6)
- STANDARDS USED ON CALIBRATION WERE TRACEABLE TO NPL, DELHI.
- NOTE : THIS CERTIFICATE REFER ONLY TO THE PARTICULAR ITEM (S) SUBMITTED FOR CALIBRATION

QUALITY CONTROL CERTIFICATE  
QUALITÄTSKONTROLLZERTIFIKAT  
CERTIFICAT DE CONTRÔLE QUALITÉ  
CERTIFICADO DE CONTROL DE CALIDAD  
CERTIFICATO DI CONTROLLO QUALITÀ

Pipette 100-1000ul

Serial Number/Serien-Nr/N° de série/Número de serie/Numero di Soric: YE231BD0013814

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Mode/Programm/Modo/Funzione: P      Volume/Volumen: 200.00 ul  
Mean/Mittelwert/Moyenne/Signficado/Medio: 200.60 ul  
Inaccuracy/Unrichtigkeit/Erreur de justesse/Inexatitud/Inaccuratezza: 0.30 %  
Imprecision/Unpräzision/Erreur de répétabilité/Imprecisión/Imprecisione: 0.08 %

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Date/Datum/Date/Fecha/Data: 2023-01-18 11:41:15  
According to/Nach/Selon/Según/In base a: ISO8655 DIN 12650; 21°C

Tested by/Prüfer/Testée par/Comprobado por/Testado da: Rose