

## SCOPE OF CALIBRATION: VOLUMETRIC

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty( $\pm$ )*	Remarks
Burette	1 ml to 10 ml 10 ml to 25 ml 25 ml to 50 ml 50 ml to 100 ml	6 $\mu$ l 20 $\mu$ l 30 $\mu$ l 70 $\mu$ l	Calibrated using Analytical Balance and Distilled Water based on ISO 385:2005(E)
Measuring Cylinder	5 ml 5 ml to 10 ml 10 ml to 25 ml 25 ml to 100 ml 100 ml to 250 ml 250 ml 500 ml 500 ml to 1,000 ml 1,000 ml to 2,000 ml	40 $\mu$ l 70 $\mu$ l 0.2 ml 0.4 ml 0.7 ml 1.6 ml 3 ml 5 ml	Calibrated using Analytical Balance and Distilled Water based on ISO 4788:2005(E)
One Mark Volumetric Flask	5 ml to 10 ml 10 ml to 25 ml 25 ml to 100 ml 100 ml to 500 ml 500 ml 2,000 ml	20 $\mu$ l 30 $\mu$ l 60 $\mu$ l 0.2 ml 0.3 ml	Calibrated using analytical Balance and Distilled Water based on ISO 1042:1998
Pipette	Type 1, Type 2, Type 3 0.5 ml to 1 ml 1 ml to 2 ml 2 ml to 5 ml 5 ml to 10 ml 10 ml to 25 ml  25 ml to 100 ml	4 $\mu$ l 7 $\mu$ l 15 $\mu$ l 29 $\mu$ l 57 $\mu$ l  7 $\mu$ l	Calibrated using Analytical Balance and Distilled Water based on ISO 835:2007(E)  Calibrated using Analytical Balance and Distilled Water based on ISO 4787:2010
Piston Operated Volumetric Apparatus (POVA)	10 $\mu$ l to 200 $\mu$ l 200 $\mu$ l to 500 $\mu$ l 500 $\mu$ l to 1,000 $\mu$ l 1 ml to 2 ml 2 ml to 5 ml 5 ml to 10 ml	0.10 $\mu$ l 0.12 $\mu$ l 0.15 $\mu$ l 0.25 $\mu$ l 0.57 $\mu$ l 1.20 $\mu$ l	Calibrated using Analytical Balance and Distilled Water based on ISO 8655-6:2002 and ISO 8655-2:2002

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Viscosity Flow Cup i. Ford Cup	Cup no. 1 (10 cSt to 35 cSt)	0.07 cSt	Calibrated using Standard Solution and Stop Watch based on ASTM D 1200:2010 (reapproved 2018)		
	Cup no. 2 (25 cSt to 120 cSt)	0.2 cSt			
	Cup no. 3 (49 cSt to 220 cSt)	0.5 cSt			
	Cup no. 4 (70 cSt to 370 cSt)	0.6 cSt			
	Cup no. 5 (200 cSt to 1,200 cSt)	2 cSt			
	ii. Zahn Cup	Cup no.1 (5 cSt to 60 cSt)		0.1 cSt	Calibrated using Standard Solution and Stop Watch based on ASTM D 4212:2016
		Cup no. 2 (20 cSt to 250 cSt)		0.5 cSt	
		Cup no. 3 (100 cSt to 800 cSt)		1.5 cSt	
		Cup no. 4 (200 cSt to 1,200 cSt)		2 cSt	
		Cup no. 5 (400 cSt to 1,800 cSt)		3 cSt	
Hydrometer	0.600 g/ml to 1.500 g/ml	0.7 mg/ml	Compare using Hydrometer based on BS 718:1991		

## Signatories:

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