

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | [www.iasonline.org](http://www.iasonline.org)

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Graduated pipettes (Variable volume) V is Volume (continued)	1 mL to 2 mL 0.5 mL to 1 mL 10 µL to 0.5 mL	0.8 µL + 4x10 <sup>-4</sup> x V 0.5 µL + 3x10 <sup>-4</sup> x V 0.4 µL + 1x10 <sup>-4</sup> x V	By Gravimetric method Using Weighing balance + Distilled water
Variable and fixed volume liquid dispensers V is Volume	5 mL to 100 mL 0.5 mL to 5 mL 100 µL to 500 µL 20 µL to 100 µL	10 µL + 6x10 <sup>-4</sup> V 0.5 µL + 3x10 <sup>-4</sup> V 0.4 µL + 3x10 <sup>-4</sup> V 0.3 µL + 3x10 <sup>-4</sup> V	By Gravimetric method Using Weighing balance + Distilled water
Syringe V is Volume	20 mL to 50 mL 5 mL to 20 mL 0.5 mL to 5 mL 20 µL to 500 µL	3 µL + 8x10 <sup>-6</sup> x V 0.6 µL + 8x10 <sup>-6</sup> x V 0.5 µL + 5x10 <sup>-6</sup> x V 0.45 µL + 3x10 <sup>-6</sup> x V	By Gravimetric method Using Weighing balance + Distilled water
Piston pipettes (Fixed and variable volume)	10 mL to 25 mL 5 mL to 10 mL 2 mL to 5 mL 500 µL to 2 mL 200 µL to 500 µL 50 µL to 200 µL 10 µL to 50 µL	1.5 µL 0.8 µL 0.7 µL 0.6 µL 0.5 µL 0.3 µL 0.3 µL	By Gravimetric method Using Weighing balance + Distilled water
Test Tubes graduated	1 L to 2 L 500 mL to 1 L 250 mL to 500 mL 100 mL to 250 mL 50 mL to 100 mL 25 mL to 50 mL 10 mL to 25 mL 5 mL to 10 mL 10 µL to 5 mL	350 µL 280 µL 250 µL 200 µL 80 µL 70 µL 30 µL 20 µL 15 µL	By Gravimetric method Using Weighing balance + Distilled water
Single line flasks (Fixed volume)	2 L 1 L 500 mL 200 mL 100 mL 50 mL 20 mL 10 mL 5 mL	130 µL 70 µL 45 µL 31 µL 30 µL 12 µL 9 µL 7 µL 6 µL	By Gravimetric method Using Weighing balance + Distilled water
Graduated burettes (Variable volume) V is Volume	50 mL to 100 mL 25 mL to 50 mL 10 mL to 25 mL 5 mL to 10 mL 2 mL to 5 mL 1 mL to 2 mL 0.1 mL to 1 mL	3.5 µL + 3.5 x10 <sup>-5</sup> x V 3 µL + 2.5x10 <sup>-5</sup> x V 3 µL + 1.5x10 <sup>-5</sup> x V 2 µL + 1x10 <sup>-5</sup> x V 1.5 µL + 3.5 x10 <sup>-5</sup> x V 1.2 µL + 4x10 <sup>-6</sup> x V 0.9 µL + 4x10 <sup>-6</sup> x V	By Gravimetric method Using Weighing balance + Distilled water

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Pycnometer	200 mL to 1000 mL 5 mL to 100 mL	0.03 mL 0.01 mL	By Gravimetric method Using Weighing balance + Distilled water
Density Hydrometers	700 kg/m <sup>3</sup> to 1400 kg/m <sup>3</sup>	0.5 kg/m <sup>3</sup>	Density standard solutions and balances by Direct method.

<sup>1</sup>The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

<sup>2</sup>When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

<sup>3</sup>Capability is suitable for the calibration of measuring devices in the stated ranges.

<sup>4</sup>Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.

<sup>5</sup>Also available as site calibration. Note that actual measurement uncertainties achievable at a customer's site can normally be expected to be larger than the uncertainties listed on this Scope of Accreditation.