

# ISO 8655-6:2022-04 (E)

## Piston-operated volumetric apparatus - Part 6: Gravimetric reference measurement procedure for the determination of volume

---

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	1
4	General requirements .....	2
5	Test equipment .....	2
5.1	General .....	2
5.2	Balance .....	2
5.3	Liquid reservoir .....	3
5.4	Weighing vessel .....	3
5.5	Measuring devices .....	3
6	Test liquid .....	3
7	Test conditions .....	3
7.1	General .....	3
7.2	Test room .....	3
7.3	Evaporation .....	4
7.4	Test cycle time .....	4
8	Procedure .....	4
8.1	General .....	4
8.1.1	Test volume .....	4
8.1.2	Number of measurements .....	4
8.1.3	Weighing procedure .....	4
8.1.4	Test conditions during weighing procedure .....	5
8.1.5	Dispensing of samples .....	5
8.2	Preparation .....	5
8.3	Single-channel air displacement pipettes (in accordance with ISO 8655-2) .....	5
8.3.1	General .....	5
8.3.2	Test cycle .....	5
8.4	Multi-channel pipettes (in accordance with ISO 8655-2) .....	7
8.5	Positive displacement pipettes (in accordance with ISO 8655-2) .....	7
8.6	Burettes (in accordance with ISO 8655-3) .....	7
8.7	Dilutors (in accordance with ISO 8655-4) .....	8
8.7.1	General .....	8
8.7.2	Test cycle .....	8
8.8	Dispensers (in accordance with ISO 8655-5) .....	9
8.9	Syringes (in accordance with ISO 8655-9) .....	9
8.9.1	General .....	9
8.9.2	Test cycle .....	9
9	Evaluation .....	10
9.1	Calculation of evaporation loss .....	10

9.2	Calculation of the corrected weighing value of each quantity delivered .....	10
9.3	Conversion of the corrected weighing values to volume .....	10
9.3.1	General .....	10
9.3.2	Calculation of volume using the general formula .....	10
9.3.3	Calculation of volume using the Z correction factor .....	12
9.3.4	Mean delivered volume .....	12
9.4	Systematic error of measurement .....	13
9.5	Random error of measurement .....	13
9.6	Uncertainty of measurement .....	13
10	Reporting of results .....	14
Annex A (informative)	Calculation of volumes from balance readings .....	15
Bibliography	.....	16