

Changes to the ISO 8566 Series for Piston-Operated Volumetric Apparatus

The ISO 8655 series that support the general requirements and use of piston-operated volumetric apparatus (POVA) have recently been revised by ISO. This series provide standard methods for the use, manufacture, testing and calibration of piston operated pipettes, burettes, dilutors, dispensers and (non surgical) syringes.

The Foreword of the second edition published April 2022 states the new (second) edition cancels and replaces the first edition, which has been technically revised.

The main changes to the series include but are not limited to:

- ISO 8655-1:2022 *Piston-operated volumetric apparatus - Part 1: Terminology, general requirements and user recommendations* is a normative reference for all other parts. Clause 6 has been added providing general requirements for frequency of calibration, reporting measurement errors, exchangeable parts, metrological confirmation of devices, routine testing, maintenance and repair and suitability of statements on performance and determination of pass/fail status. These additions clarify the differences between routine testing and periodic metrological conformation (calibration and verification to maximum permissible errors);
- ISO 8655-2:2022 *Piston-operated volumetric apparatus - Part 2: Pipettes* includes changes to the maximum permissible errors for reporting conformity and a new informative Annex B for motorised pipettes has been introduced;
- A new Clause 4 titled “General requirements” has been added to ISO 8655-6:2022 *Piston-operated volumetric apparatus - Part 6: Gravimetric reference measurement procedure for the determination of volume*. The new Clause states when performing calibrations to this reference method, all requirements shall be followed or exceeded. Part 6 also includes changes to the requirements of reference test equipment, formula and test method. Further instruction for multichannel pipettes has also been added. Part 6 is a normative reference to the Part 7, hence these changes also apply to the applicable parts of ISO 8655-7;
- ISO 8655-7, *Piston-operated volumetric apparatus - Part 7: Alternate measurement procedures for determination of volume* is now a normative reference and referenced as a standard test method for establishing metrological performance in ISO 8655-2 *Piston-operated volumetric apparatus - Part 2: Pipettes*. The gravimetric test method (with reference to ISO 8566-6) has been added to Part 7 as well as further instruction for multichannel pipettes. Normative procedures for all methods are provided in Annexes A to E of ISO 8655-7;
- ISO 8655-8, *Piston-operated volumetric apparatus - Part 8: Photometric reference measurement procedure for the determination of volume* is now a normative reference and referenced as a standard test method for establishing metrological performance in ISO 8655-2 *Piston-operated volumetric apparatus - Part 2: Pipettes*;
- ISO 8655-9, *Piston-operated volumetric apparatus - Part 9: Manually operated precision laboratory syringes* has been added as a normative reference. This addition



provides a standard method for syringes which was missing in the first edition of the series.

Laboratories following these standard methods are expected to revise their test methods and requirements to the new second edition as per the requirement to adopt the latest version in the ISO/IEC 17000 series of conformity assessment standards.

Where applicable, NATA will commence assessments against the ISO 8655 series second edition from **1st July 2022**.

Should facilities have any enquiries, they should contact their Client Coordinator in the first instance.

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