
**Piston-operated volumetric
apparatus —**

**Part 2:
Pipettes**

Appareils volumétriques à piston —

Partie 2: Pipettes



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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle of operation	2
5 Adjustment	2
5.1 Basis of adjustment	2
5.2 Initial adjustment	2
5.3 Subsequent adjustment	2
5.4 Adjustment for other liquid properties	2
6 Design	3
6.1 Types of pipette	3
6.2 Transfer of hand warmth	3
7 Pipette tips	4
7.1 General	4
7.2 Air-displacement pipette tips	4
7.3 Positive-displacement pipette tips	4
8 Type, designation	5
9 Metrological performance requirements	5
9.1 General	5
9.2 Fixed-volume pipettes of types A and D1	5
9.3 Fixed-volume pipettes of type D2	5
9.4 Variable-volume pipettes of types A, D1 and D2	6
9.5 Multi-channel pipettes	6
9.6 Calculation of maximum permissible errors for volumes not listed in Tables 1, 2 and 3	6
9.7 Pipette tips	9
10 User information	9
10.1 Pipettes	9
10.2 Pipette tips and accessories	10
11 Marking	10
11.1 Pipettes	10
11.2 Pipette tips	10
Annex A (informative) Possible sources of error for air displacement pipettes	11
Annex B (informative) Electronic motorised air displacement pipettes and method for testing in multi-dispensing mode	13
Bibliography	15

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 48, *Laboratory equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 332, *Laboratory equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 8655-2:2002), which has been technically revised. It also incorporates the Technical Corrigendum ISO 8655-2:2002/Cor.1:2008.

The main changes are as follows:

- ISO 8655-7 and ISO 8655-8 have been added as normative references;
- metrological performance requirements for pipette tips have been further specified;
- [Tables 1](#) and [2](#) have been revised;
- a new [Table 3](#) has been introduced;
- a new informative [Annex B](#) for motorised pipettes has been introduced;
- former [Annex A](#) has been added as new [Clause 10](#).

A list of all parts in the ISO 8655 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The ISO 8655 series addresses the needs of:

- manufacturers, as a basis for quality control including, where appropriate, the issuance of manufacturer's declarations;
- calibration laboratories, test houses, users of the equipment and other bodies as a basis for independent calibration, testing, verification and routine tests.

The tests specified in the ISO 8655 series are intended to be carried out by trained personnel.

Piston-operated volumetric apparatus —

Part 2: Pipettes

1 Scope

This document specifies

- metrological requirements,
- maximum permissible errors,
- requirements for marking and
- information to be provided for users,

for air-displacement (type A) and positive displacement (type D) single-channel and multi-channel pipettes, complete with their selected tip(s) and any other essential, consumable parts, designed to deliver the selected volume (Ex).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 8655-1, *Piston-operated volumetric apparatus — Part 1: Terminology, general requirements and user recommendations*

ISO 8655-6:2022, *Piston-operated volumetric apparatus — Part 6: Gravimetric reference measurement procedure for the determination of volume*

ISO 8655-7:2022, *Piston operated volumetric apparatus — Part 7: Alternative measurement procedures for the determination of volume*

ISO 8655-8:2022, *Piston-operated volumetric apparatus — Part 8: Photometric reference measurement procedure for the determination of volume*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8655-1 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>