
Piston-operated volumetric apparatus —

Part 1: Terminology, general requirements and user recommendations

Appareils volumétriques à piston —

*Partie 1: Définitions, exigences générales et recommandations pour
l'utilisateur*





COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

| | |
|---|-----------|
| Foreword | iv |
| Introduction | v |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Abbreviated terms | 6 |
| 5 Types of piston-operated volumetric apparatus | 6 |
| 5.1 General..... | 6 |
| 5.2 Pipettes..... | 6 |
| 5.3 Burettes..... | 7 |
| 5.4 Dilutors..... | 7 |
| 5.5 Dispensers..... | 7 |
| 5.6 Syringes..... | 7 |
| 6 General requirements | 7 |
| 6.1 Frequency of calibrations and tests..... | 7 |
| 6.2 Reporting measurement errors..... | 7 |
| 6.3 Exchangeable Parts..... | 7 |
| 6.4 Metrological confirmation..... | 8 |
| 6.5 Routine testing..... | 8 |
| 6.6 Maintenance and repair..... | 8 |
| 6.7 Suitability to give statements on performance..... | 8 |
| 6.8 Determination of pass/fail status..... | 9 |
| 7 Product information | 9 |
| 7.1 User information..... | 9 |
| 7.2 Decontamination and sterilisation..... | 9 |
| 7.3 Chemical resistance..... | 9 |
| 8 Factors affecting choice of piston-operated volumetric apparatus | 9 |
| 8.1 Interaction with liquids..... | 9 |
| 8.2 Use of air displacement pipettes..... | 10 |
| 9 Marking | 10 |
| Bibliography | 11 |

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 8655-1:2002), which has been technically revised. It also incorporates the Technical Corrigendum ISO 8655-1:2002/Cor.1:2008.

The main changes are as follows:

- ISO 8655-7, ISO 8655-8, and ISO 8655-9 have been added as normative references;
- abbreviated terms have been introduced as [Clause 4](#);
- terms and definitions have been revised and some new ones included;
- general requirements for frequency of calibration, reporting measurement errors, exchangeable parts, metrological confirmation, routine testing, and maintenance and repair, suitability of statements on performance and determination of pass/fail status have been added in [Clause 6](#).

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.