Piston-operated volumetric apparatus -Part 6: Gravimetric methods for the determination of measurement error

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 8655-6:2003 sisaldab Euroopa standardi EN ISO 8655-6:2002 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 8655-6:2003 consists of the English text of the European standard EN ISO 8655- 6:2002.
Käesolev dokument on jõustatud	This document is endorsed on 18.02.2003
18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni	with the notification being published in the official publication of the Estonian national
ametlikus väljaandes	standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.
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Käsitlusala:	Scope:
This part of ISO 8655 specifies the	This part of ISO 8655 specifies the
reference method for conformity testing	reference method for conformity testing
of piston-operated volumetric apparatus,	of piston-operated volumetric apparatus,
whereby errors of measurement are determined gravimetrically. The tests are	whereby errors of measurement are determined gravimetrically. The tests are
aplicable to complite system comprising	aplicable to complite system comprising
	the basic apparatus and all parts selected
for use with the apparatu, disposable or	for use with the apparatu, disposable or
reusable, involved in the measurement by uptake (In) or delivery (Ex) process	Qusable, involved in the measurement by uptake (In) or delivery (Ex) process
uptake (iii) of delivery (Ex) process	
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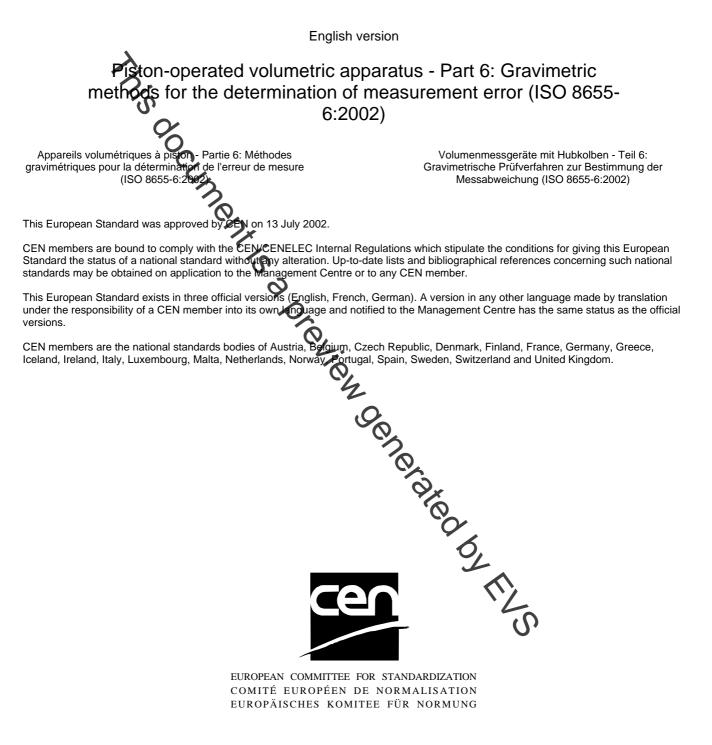
Võtmesõnad: drift, error limits, gravimetric analysis, lifting cylinders, measuring instruments, piston meters, pistons, precision, specification (approval), specifications, testing, volumetric apparatus, volumetric meters

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN ISO 8655-6

September 2002

ICS 17.060



Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN ISO 8655-6:2002 E

Foreword

This document (ISO 8655-6:2002) has been prepared by Technical Committee ISO/TC 48 "Laboratory glassware and related apparatus" in collaboration with Technical Committee CEN/TC 332 Laboratory equipment", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.

According to the CENERENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 8655-6:2002 has been approved by CEN as a European Standard without any modifications.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

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Annex ZA (normative) Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

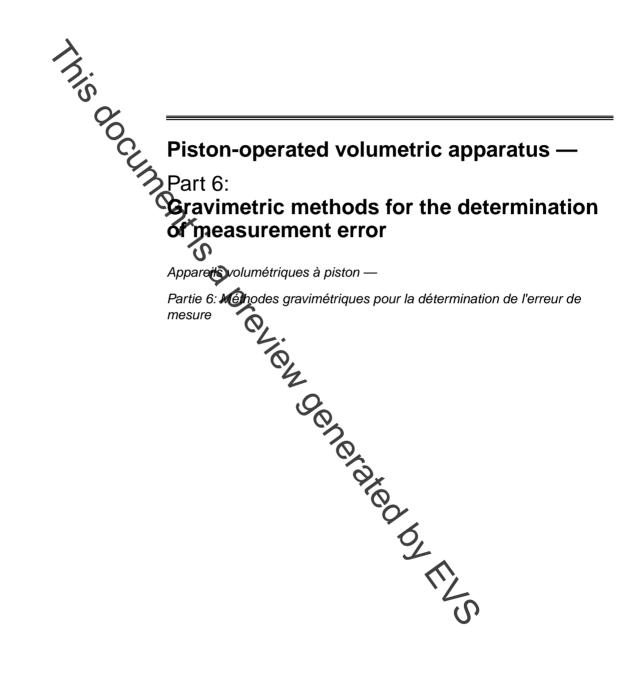
NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

Publication	YPAR	Title	EN	Year
EN ISO 3696	1995	Title Water for analytical laboratory use - pecification and test methods which is a Drawing Grand Strategy of the second strategy of the	ISO 3696	1987
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INTERNATIONAL STANDARD

ISO 8655-6

First edition 2002-09-15





Reference number ISO 8655-6:2002(E)

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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 rake part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 8655 may be the subject of patent rights. ISO shall not be held responsible in identifying any or all such patent rights.

International Standard ISO 8655-6 was prepared by Technical Committee ISO/TC 48, Laboratory glassware and related apparatus, Subcommittee SC 1, Volumetric instruments.

ISO 8655 consists of the following parts, under the general title Piston-operated volumetric apparatus:

- Part 1: Terminology, general requirements and user recommendations elien
- Part 2: Piston pipettes
- Part 3: Piston burettes
- Part 4: Dilutors
- Part 5: Dispensers
- Part 6: Gravimetric methods for the determination of measu

The following part is under preparation:

Part 7: Non-gravimetric methods for the determination of measuremeter

Annex A forms a normative part of this part of ISO 8655. Annex B is for information only.

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Introduction

ISO 8655 addresses the needs of:

- suppliers, as a basis for quality control including, where appropriate, the issuance of supplier's declarations;
- test houses and other bodies, as a basis for independent certification;
- users of the equipment, to enable routine checking of accuracy.

The tests specified should be carried out by trained personnel.

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Piston-operated volumetric apparatus —

Part 6:

Gravimetric methods for the determination of measurement error

1 Scope

This part of ISO 8655 specific the reference method for conformity testing of piston-operated volumetric apparatus, whereby errors of measurement are determined gravimetrically. The tests are applicable to complete systems comprising the basic apparatus and all parts selected for use with the apparatus, disposable or reusable, involved in the measurement by uptake (In) or delivery (Ex) process.

NOTE General requirements and definitions of terms of piston-operated volumetric apparatus are given in ISO 8655-1. For the metrological requirements, maximum perhapsible errors, requirements for marking and information to be provided for users for piston-operated volumetric apparatus, see ISO 8655-2 for piston pipettes, see ISO 8655-3 for piston burettes, see ISO 8655-4 for dilutors and see ISO 8655-5 for dispensers. Alternative test methods such as photometric and titrimetric methods will be the subject of a future Part 7 to ISO 8655.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 8655. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 8655 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3696, Water for analytical laboratory use - Specification and test methods

ISO 8655-1:2002, Piston-operated volumetric apparatus — Part 1: Terminology, general requirements and user recommendations

ISO 8655-2:2002, Piston-operated volumetric apparatus - Part 2: Piston proctes

ISO 8655-3:2002, Piston-operated volumetric apparatus — Part 3: Piston bureties

ISO 8655-4:2002, Piston-operated volumetric apparatus — Part 4: Dilutors

ISO 8655-5:2002, Piston-operated volumetric apparatus — Part 5: Dispensers

ISO/TR 20461:2000, Determination of uncertainty for volume measurements made using the gravimetric method

ISO/IEC Guide 2, Standardization and related activities — General vocabulary

OIML R 76-1:1992, Non-automatic weighing instruments — Part 1: Metrological and technical requirements — Tests

3 Terms and definitions

For the purposes of this part of ISO 8655, the terms and definitions given in ISO 8655-1, ISO/IEC Guide 2 and OIML R 76-1 apply.