This is a free page sample. Access the full version online.

NSAI Standards

Irish Standard
I.S. EN ISO 8655-6:2002

Piston-operated volumetric apparatus - Part 6: Gravimetric methods for the determination of measurement error (ISO 8655-6:2002)

© NSAI 2002 No copying without NSAI permission except as permitted by copyright law.

This is a free page sample. Access the full version online.

I.S. EN ISO 8655-6:2002

Incorporating amendments/corrigenda/National Annexes issued since publication:
EN ISO 8655-6:2002/AC:2009

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:	*This document is based on:* EN ISO 8655-6:2002	*Published:* 18 December, 2002

This document was published under the authority of the NSAI and comes into effect on: 18 December, 2002	ICS number: 17.060

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 8655-6:2002/AC

February 2009
Février 2009
Februar 2009

ICS 17.060

English version
Version Française
Deutsche Fassung

Piston-operated volumetric apparatus - Part 6: Gravimetric methods for the determination of measurement error (ISO 8655-6:2002/Cor 1:2008)

Appareils volumétriques à piston - Partie 6: Méthodes gravimétriques pour la détermination de l'erreur de mesure (ISO 8655-6:2002/Cor 1:2008)

Volumenmessgeräte mit Hubkolben - Teil 6: Gravimetrische Prüfverfahren zur Bestimmung der Messabweichung (ISO 8655-6:2002/Cor 1:2008)

This corrigendum becomes effective on 18 February 2009 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 18 février 2009 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 18.Februar 2009 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2009 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.
Tous droits d'exploitation sous quelque forme et de quelque manière que ce soit réservés dans le monde entier aux membres nationaux du CEN.
Alle Rechte der Verwertung, gleich in welcher Form und in welchem Verfahren, sind weltweit den nationalen Mitgliedern von CEN vorbehalten.

Ref. No.:EN ISO 8655-6:2002/AC:2009 D/E/F

This is a free page sample. Access the full version online.

Endorsement notice

The text of ISO 8655-6:2002/Cor.1:2008 has been approved by CEN as a European Corrigendum without any modification.

This is a free page sample. Access the full version online.

I.S. EN ISO 8655-6:2002
INTERNATIONAL STANDARD ISO 8655-6:2002
TECHNICAL CORRIGENDUM 1

Published 2008-12-15

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Piston-operated volumetric apparatus —

Part 6:
Gravimetric methods for the determination of measurement error

TECHNICAL CORRIGENDUM 1

Appareils volumétriques à piston —

Partie 6: Méthodes gravimétriques pour la détermination de l'erreur de mesure

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO 8655-6:2002 was prepared by Technical Committee ISO/TC 48, *Laboratory equipment*, Subcommittee SC 6, *Laboratory and volumetric ware*.

Page iv, Foreword

Add the following part to the list of parts:

— *Part 7: Non-gravimetric methods for the assessment of equipment performance*

Delete “The following part is under preparation:” and the former title of part 7.

Page 1, Scope

In the note, replace the third sentence with the following:

“Alternative test methods such as photometric and titrimetric methods are given in ISO 8655-7.”

ICS 17.060 **Ref. No. ISO 8655-6:2002/Cor.1:2008(E)**

© ISO 2008 – All rights reserved

Published in Switzerland

This is a free page sample. Access the full version online.

Page 1, Clause 2

Replace the reference to OIML R 76-1:1992 with the following:

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

Page 9, 8.3

In the sentence below Equation (2), replace “which is 20 °C” with “which is 20 °C or 27 °C”.

Page 10, Clause 9

In list item b), replace “(20 °C)” with “(20 °C or 27 °C)” to give the following:

b) basis of adjustment (Ex) or (In) and reference temperature (20 °C or 27 °C);

© ISO 2008– All rights reserved

This is a free page sample. Access the full version online.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 8655-6

September 2002

ICS 17.060

English version

Piston-operated volumetric apparatus - Part 6: Gravimetric methods for the determination of measurement error (ISO 8655-6:2002)

Appareils volumétriques à piston - Partie 6: Méthodes gravimétriques pour la détermination de l'erreur de mesure (ISO 8655-6:2002)

Volumenmessgeräte mit Hubkolben - Teil 6: Gravimetrische Prüfverfahren zur Bestimmung der Messabweichung (ISO 8655-6:2002)

This European Standard was approved by CEN on 13 July 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

© 2002 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

This is a free page sample. Access the full version online.

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 CEN/CENELEC 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).

This is a free page sample. Access the full version online.

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	Year	Title	EN	Year
EN ISO 3696	1995	Water for analytical laboratory use - Specification and test methods	ISO 3696	1987

This is a free page sample. Access the full version online.

I.S. EN ISO 8655-6:2002

INTERNATIONAL STANDARD

ISO 8655-6

First edition
2002-09-15

Piston-operated volumetric apparatus —

Part 6: Gravimetric methods for the determination of measurement error

Appareils volumétriques à piston —

Partie 6: Méthodes gravimétriques pour la détermination de l'erreur de mesure

Reference number
ISO 8655-6:2002(E)

© ISO 2002

This is a free page sample. Access the full version online.

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

© ISO 2002 – All rights reserved

This is a free page sample. Access the full version online.

Contents

Page

1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Apparatus **2**
5 Test liquid **2**
6 Test conditions **2**
7 Procedure **3**
8 Evaluation **8**
9 Test report **10**

Annexes

A Calculation of volumes from balance readings **12**
B Assessment of the uncertainty of the delivered volume **13**
Bibliography **14**

© ISO 2002 – All rights reserved

This is a free page sample. Access the full version online.

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.

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 for 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*

— *Part 2: Piston pipettes*

— *Part 3: Piston burettes*

— *Part 4: Dilutors*

— *Part 5: Dispensers*

— *Part 6: Gravimetric methods for the determination of measurement error*

The following part is under preparation:

— *Part 7: Non-gravimetric methods for the determination of measurement error*

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

© ISO 2002 – All rights reserved

This is a free page sample. Access the full version online.

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.

© ISO 2002 – All rights reserved

This is a free page sample. Access the full version online.

This is a free page sample. Access the full version online.

Piston-operated volumetric apparatus —

Part 6:
Gravimetric methods for the determination of measurement error

1 Scope

This part of ISO 8655 specifies 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 permissible 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 pipettes*

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

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.

© ISO 2002 – All rights reserved

SAI GLOBAL

This is a free preview. Purchase the entire publication at the link below:

Product Page

Looking for additional Standards? Visit Intertek Inform Infostore

Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation