

VEEARVESTID KÜLMALE JOOGIVEELE JA KUUMALE
VEELE. OSA 2: KATSEMEETODID

Water meters for cold potable water and hot water -
Part 2: Test methods (ISO 4064-2:2014)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 4064-2:2017 sisaldab Euroopa standardi EN ISO 4064-2:2017 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 4064-2:2017 consists of the English text of the European standard EN ISO 4064-2:2017.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.05.2017.	Date of Availability of the European standard is 24.05.2017.
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English Version

Water meters for cold potable water and hot water - Part
2: Test methods (ISO 4064-2:2014)

Compteurs d'eau potable froide et d'eau chaude -
Partie 2: Méthodes d'essai (ISO 4064-2:2014)

Wasserzähler zum Messen von kaltem Trinkwasser
und heißem Wasser - Teil 2: Prüfverfahren (ISO 4064-
2:2014)

This European Standard was approved by CEN on 11 May 2017.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of ISO 4064-2:2014 has been prepared by Technical Committee ISO/TC 30 “Measurement of fluid flow in closed conduits” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4064-2:2017 by Technical Committee CEN/TC 92 “Water meters” the secretariat of which is held by SNV.

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 November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 4064-2:2014.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 4064-2:2014 has been approved by CEN as EN ISO 4064-2:2017 without any modification.

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 2014/32/EU aimed to be covered

This European Standard has been prepared under a Commission's standardization request Mandate to CEN and CENELEC for standardisation in the field of measuring instruments "M/374 EN" to provide one voluntary means of conforming to essential requirements of Directive 2014/32/EC EU of the European Parliament and the Council of 26 February 2014 on measuring instruments (Text with EEA relevance).

Once this standard is cited in the Official Journal of the European Union under that Directive 2014/32/EU, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive 2014/32/EU, and associated EFTA regulations.

Introduction:

The column "Comment" the term "Addressed" indicates the compliance between EN ISO 4064-2:2014 and the relevant requirement in Directive 2014/32/EU. The term "Not (fully) addressed" indicates that compliance may not (fully) be realised, whilst "Addressed" may also be qualified in other ways. In the case the requirement is "Not fully addressed", a short statement may explain what is covered. The indication "Not applicable" means that the requirement in Annex I of Directive 2014/32/EU is not relevant for Water Meters

The original Directive 2004/22/EU had been amended by Directive 137/2009/EC. These have been fully replaced by Directive 2014/32/EU. This latest directive has already been amended by Directive 2015/13/EU.

The numbering in the first column will reflect the structure of the new Directive 2014/32/EU.

For purpose of cross-reference the second column indicates the structure of the original Directive 2004/22/EU.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2014/32/EU.

Essential Requirements (ERs) of Directive 32/2014/EU Annex I Essential Requirements Note: Amended by Directive 2015/13/EU	Essential Requirements (ERs) of Directive 22/2004/EC Annex I Essential Requirements Note: Amended by Directive 2009/137	Clause(s)/subclause(s) of this EN	Qualifying remarks/Notes
I.1.1 and 1.2 Allowable errors, Rated operating conditions	I.1.1 and 1.2 Allowable errors, Rated operating conditions	7.4 4	Reference conditions
I.1.3.1 Climatic environments, temperature limits	I.1.3.1 Climatic environments, temperature limits	8.2 8.3 8.4	Addressed
I.1.3.2 Mechanical environments	I.1.3.2 Mechanical environments	8.6 8.7	Addressed
I.1.3.3 Electromagnetic environments	I.1.3.3 Electromagnetic environments	8.5 8.8 8.9 8.10 8.11 8.12 8.13 8.14 8.15	Addressed
I.1.3.4 Other influences	I.1.3.4 Other influences	7.4.4 8.5.3 8.5.4	Addressed
I.1.4.1 Basic rules for testing	I.1.4.1 Basic rules for testing	7.2.2 7.4.2 7.4.3 7.4.4 7.4.5 8.1	Addressed
I.1.4.2 Ambient humidity	I.1.4.2 Ambient humidity	6.4 / 8.4	Addressed, damp heat cyclic only
I.2 Reproducibility	I.2 Reproducibility	EN ISO 4064-1, 7.2.9.3	Addressed
I.3 Repeatability	I.3 Repeatability	7.4.4 Covered by performance tests	Addressed via acceptance criteria of tests

I.4 Discrimination and sensitivity	I.4 Discrimination and sensitivity	6.4.3.6 Covered performance tests by	Addressed via acceptance criteria of tests
I.5 Durability	I.5 Durability	7.11	Addressed via acceptance criteria of tests
I.6 Reliability	I.6 Reliability	7.11	Addressed via acceptance criteria of tests
I.7 Suitability			
I.7.1 Fraudulent use	I.7.1 Fraudulent use	6.2 6.4.4 7.12	Addressed (sealing is addressed in 4064-1, 6.8)
I.7.2 Suitable for use	I.7.2 Suitable for use	6.4.3 7 8	Addressed
I.7.3 Unduly biasing	I.7.3 Unduly biasing	7.4 8.17	Addressed (test at Q4 in 7.4)
I.7.4 Insensitivity to measurand fluctuations	I.7.4 Insensitivity to measurand fluctuations	8.17	Typically not applicable however, absence of flow addresses in of EN ISO 4064-2, 8.17
I.7.5 Robustness and suitability of materials	I.7.5 Robustness and suitability of materials	Addressed by 7.11 and other parts sections 7 and 8	Also addressed in EN ISO 4064-1, 6.1
I.7.6 Allow for control after placing on the market	I.7.6 Allow for control after placing on the market.	6.4.3.6.1 6.4.3.6.2 6.4.4 Annex A	Also addressed in EN ISO 4064-1, 6.8
I.8.1 Not to be influenced in any admissible way	I.8.1 Not to be influenced in any admissible way	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 5.1.1 and 6.3
I.8.2 Securing of hardware components	I.8.2 Securing of hardware components	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 6.8
I.8.3 Securing and identification of software	I.8.3 Securing and identification of software	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 6.8
I.8.4 Measurement data adequately protected against corruption	I.8.4 Measurement data adequately protected against corruption	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064, 1, 6.8
I.8.5 Total quantity supplied not to be reset	I.8.5 Total quantity supplied not to be reset	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 6.8

I.9.1 Inscriptions	I.9.1 Inscriptions	6.4.2	Addressed
I.9.2 Marking of packaging and documents	I.9.2 Marking of packaging and documents	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 6.6
I.9.3 Information on operation	I.9.3 Information on operation	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-5, 4.2
I.9.4 Necessity of instruction manual	I.9.4 Necessity of instruction manual	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-5, 4.2
I.9.5 Scale interval for the measurand	I.9.5 Scale interval for the measurand	6.4.3.6.2.1	Addressed
I.9.6 Material measure	I.9.6 Unit of measurement	6.4.3.2	Addressed
I.9.7 Unit of measurement	I.9.7 Unit of measurement	Not addressed in EN ISO 4064-2	Addressed in EN ISO 4064-1, 6.7.1.2
I.9.8 Marking properties	I.9.8 Marking properties	6.4.2	Addressed
I.10.1 Display or hard copy	I.10.1 Display or hard copy	6.4.3	Addressed
I.10.2 Reading properties	I.10.2 Reading properties	6.4.3.1	Addressed
I.10.3 Hard-copy or print properties	I.10.3 Hard-copy or print properties	-	Not applicable
I.10.4 Direct sales trading transactions	I.10.4 Direct sales trading transactions	-	Not applicable
I.10.5 Properties of display for remote reading	I.10.5 Properties of display for remote reading	6.4.3	Addressed
I.11.1 Recording properties of non-utility measuring instrument	I.11.1 Recording properties of non-utility measuring instrument	-	Not applicable
I.11.2 Availability of durable proof of measurement result	I.11.2 Availability of durable proof of measurement result	-	Not applicable
I.12 Conformity evaluation	I.12 Conformity evaluation	10	Addressed also in EN ISO 4064-1, 3.6 and 7.3
Specific Requirements of Annex III for WATER METERS (MI-001)	Specific Requirements of Annex MI-001 for WATER METERS	Clause(s)/subclause(s) of this European Standard	Qualifying remarks/Notes
Rated Operating Conditions	Rated Operating Conditions	4	Reference conditions only
MI.1 Values of flow rate range Note: addresses amendment of Directive 2015/13/EU	MI.1 Values of flow rate range Note: addresses amendment of Directive 2015/13/EU	7.4	Addressed
MI.2 Temperature range of the water	MI.2 Temperature range of the water	7.5 7.6	Addressed
MI.3 Relative pressure of the	MI.3 Relative pressure of the	7.3	Addressed