

**Water conditioning equipment inside
buildings-Chemical dosing systems-
Pre-set dosing systems- Requirements
for performance, safety and testing
KONSOLIDEERITUD TEKST**

Water conditioning equipment inside buildings-
Chemical dosing systems-Pre-set dosing systems-
Requirements for performance, safety and testing
CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14812:2005+A1:2007 sisaldab Euroopa standardi EN 14812:2005+A1:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 21.08.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14812:2005+A1:2007 consists of the English text of the European standard EN 14812:2005+A1:2007.</p> <p>This document is endorsed on 21.08.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala: This European Standard specifies definitions, principles of construction (but not dimensions) and design, requirements on performance and operation as well as methods for testing the performance of chemical preset dosing systems for conditioning water intended for human consumption inside buildings (see [7]) which are permanently connected to the mains supply.</p>	<p>Scope: This European Standard specifies definitions, principles of construction (but not dimensions) and design, requirements on performance and operation as well as methods for testing the performance of chemical preset dosing systems for conditioning water intended for human consumption inside buildings (see [7]) which are permanently connected to the mains supply.</p>
---	---

ICS 13.060.20, 91.140.60

Võtmesõnad: aeration, chemicals, connections, design, dosage

English Version

Water conditioning equipment inside buildings - Chemical dosing systems - Pre-set dosing systems - Requirements for performance, safety and testing

Appareils de traitement d'eau à l'intérieur des bâtiments - Systèmes de dosage de réactifs chimiques - Systèmes de dosage non ajustables - Exigences de performance, de sécurité et essais

Anlagen zur Behandlung von Trinkwasser innerhalb von Gebäuden - Dosiersysteme - Nicht einstellbare Dosiersysteme - Anforderungen an Ausführung, Sicherheit und Prüfung

This European Standard was approved by CEN on 26 August 2005 and includes Amendment 1 approved by CEN on 10 May 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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

Contents

Page

Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Design requirements	6
4.1 Materials of construction	6
4.2 Connections	7
4.3 Venting.....	7
4.4 Radio interference and electrical safety.....	7
4.5 Dosing agent containers.....	7
4.6 Accessibility.....	7
4.7 Nominal size.....	7
5 Performance requirements	8
5.1 Dosing and dosing agents.....	8
5.1.1 Dosing agents	8
5.1.2 Dosing.....	8
5.2 Working ranges.....	8
5.3 Protection against backflow of proprietary chemical.....	9
5.4 Working temperature range.....	9
5.5 Pressure conditions	9
5.5.1 Nominal pressure and working pressure range.....	9
5.5.2 Effects of pressure variations	9
5.5.3 Pressure drop.....	9
5.5.4 Water hammer.....	9
6 Testing	9
6.1 General.....	9
6.2 Dosing and dosing agents.....	10
6.2.1 Test rig.....	10
6.2.2 Analysis	11
6.2.3 Quality of test water	11
6.2.4 Sampling.....	11
6.2.5 Evaluation of results	11
6.2.6 Dosing agents	11
6.2.7 Dosing.....	11
6.3 Working ranges.....	12
6.4 Protection against backflow of dosing agent.....	12
6.4.1 Procedure	12
6.4.2 Evaluation of results	12
6.5 Pressure conditions	12
6.5.1 Nominal pressure and working pressure range.....	12
6.5.2 Static pressure	13
6.5.3 Dynamic pressure.....	13
6.5.4 Working pressure range	13
6.5.5 Pressure drop.....	13
7 Labelling	13
7.1 Nameplate on dosing apparatus	13
7.2 Information to be given on dosing agent container.....	14
8 Manufacturer's product information	14

Annex A (informative) **Examples of connections** 15

Annex B (normative) **Installation, operation and maintenance** 16

Bibliography..... 20

This document is a preview generated by EVS

Foreword

This document (EN 14812:2005+A1:2007) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2007 and conflicting national standards shall be withdrawn at the latest by December 2007.

This document includes Amendment 1, approved by CEN on 2007-05-10.

This document supersedes EN 14812:2005.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A_1}$ $\boxed{A_1}$.

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this European Standard:

- 1) This European Standard provides no information as to whether the product may be used without restriction in any of the Member States in EU or EFTA.
- 2) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies definitions, principles of construction (but not dimensions) and design, requirements on performance and operation as well as methods for testing the performance of chemical pre-set dosing systems for conditioning water intended for human consumption inside buildings (see [8]) which are permanently connected to the mains supply.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies: For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 806-2, *Specification for installations inside buildings conveying water for human consumption - Part 2: Design*

EN 1267, *Valves – Test of flow resistance using water as test fluid*

EN 55011, *Industrial, scientific and medical (ISM) radio-frequency equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 11:1997, modified)*

EN 60204-1, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements (IEC 60204-1:1997)*

EN 60335-1¹, *Household and similar electrical appliances – Safety – Part 1: General requirements (IEC 60335-1:2001, modified)*

EN 60335-2-41, *Household and similar electrical appliances - Safety - Part 2-41: Particular requirements for pumps (IEC 60335-2-41:2002)*

EN 60730-2-8:2002, *Automatic electrical controls for household and similar use — Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements (IEC 60730-2-8:2000, modified)*

EN ISO 10304-1, *Water quality – Determination of dissolved fluoride, chloride, nitrite, orthophosphate, bromide, nitrate and sulphate ions, using liquid chromatography of ions – Part 1: Method for water with low contamination (ISO 10304-1:1992)*

EN ISO 10304-2, *Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulfate in waste water (ISO 10304-2:1995)*

EN ISO 10304-3, *Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 3: Determination of chromate, iodide, sulphite, thiocyanate and thiosulfate (ISO 10304-3:1997)*

EN ISO 10304-4, *Water quality – Determination of dissolved anions by liquid chromatography of ions – Part 4: Determination of chlorate, chloride and chlorite in water with low contamination (ISO 10304-4:1997)*

EN ISO 11885, *Water quality – Determination of 33 elements by inductively coupled plasma atomic emission spectroscopy (ISO 11885:1996)*

EN ISO 12100-1, *Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

¹ Observe transition period for EN 60335-1(1994) ending 2008-07-01.

EN ISO 12100-2, *Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles (ISO 12100-2:2003)*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1

conditioning of water intended for human consumption

processes that modify the quality of water intended for human consumption within the Drinking Water Directive or national drinking water regulations with regard to specific individual constituents as defined in EN 806-2

3.2

pre-set dosing system

device used for the controlled addition of dosing agents in one or more fixed quantities

3.3

working range

range of treated water flow rates between which the dosing system provides the required accuracy of concentration of the dosing agent within limits of concentration and pressure drop prescribed by the manufacturer. It covers the range between the upper and lower working limits

3.4

dosing volume per recharge

water volume that can be treated with one recharge of dosing agent

3.5

proprietary chemical

specific composition of one or more dosing agents in a particular physical form that is put on the market by the manufacturer under his trade name and supplied together with the dosing apparatus

3.6

dosing agents

active chemical substances for conditioning water intended for human consumption

3.7

manufacturer

company (manufacturer or supplier) under whose name the dosing system and the proprietary chemical(s) are put on the market

4 Design requirements

4.1 Materials of construction

Until EAS comes into force, the current national regulations remain applicable.

NOTE Products intended for use in water supply systems should comply, when existing, with national regulations and testing arrangements that ensure fitness for contact with drinking water. The Member states relevant regulators and the EC Commission agreed on the principles of a future unique European Acceptance Scheme (EAS), which would provide a common testing and approval arrangement at European level.

If and when the EAS is adopted, European Product Standards will be amended by the addition of an Annex Z/EAS under Mandate M/136 which will contain formal references to the testing, certification and product marking requirements of the EAS.