



# SLOVENSKI STANDARD

## SIST EN 14506:2005

01-september-2005

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### Naprave za varovanje pred onesnaženjem pitne vode zaradi povratnega toka – Avtomatski preusmerjevalnik – Družina H, tip C

Devices to prevent pollution by backflow of potable water - Automatic diverter - Family H, type C

Sicherungseinrichtungen zum Schutz des Trinkwassers gegen Verschmutzung durch Rückfließen - Automatischer Umsteller - Familie H, Typ C

Dispositifs de protection contre la pollution de l'eau potable par retour - Inverseur a retour automatique - Famille H, type C

**Ta slovenski standard je istoveten z: EN 14506:2005**

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#### ICS:

13.060.20	Pitna voda	Drinking water
91.140.60	Sistemi za oskrbo z vodo	Water supply systems

**SIST EN 14506:2005**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 14506

May 2005

ICS 13.060.20; 23.060.01

English version

Devices to prevent pollution by backflow of potable water -  
Automatic diverter - Family H, type C

Dispositifs de protection contre la pollution de l'eau potable  
par retour - Inverseur à retour automatique - Famille H, type  
C

Sicherungseinrichtungen zum Schutz des Trinkwassers  
gegen Verschmutzung durch Rückfließen - Automatischer  
Umsteller - Familie H, Typ C

This European Standard was approved by CEN on 24 December 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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## Foreword

This document (EN 14506:2005) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

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 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

This document has been developed with reference to EN 1717 "Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow".

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

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## Introduction

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

- a) this document provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- b) 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.

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## 1 Scope

This document specifies:

- a) field of application;
- b) requirements for automatic diverters;
- c) dimensional and the physico-chemical properties and the properties of general hydraulic, mechanical and acoustic design of automatic diverters;
- d) test method and requirements for verifying these properties. For sanitary tapware (see Clause 2) with integrated devices, the automatic diverter is only considered to be a backflow protection device if it has passed the requirements of this document and additionally those of the applicable product standard for the draw off tap or mixing valve;
- e) marking and presentation;
- f) acoustics.

This document specifies the characteristics of automatic diverters suitable for use in drinking water systems at pressures up to 1 MPa (10 bar) and temperatures up to 65 °C and for 1 h at 90 °C. They are intended only for installation with no downstream closing device.

This document is applicable to the product type indicated as follows:

- i) integrated in spout (outlet);
- ii) integrated in the mixing body;
- iii) non-integrated (part of a set) above the maximum water level.

This document is not applicable to the product type non-integrated below the maximum water level.

## 2 Normative references

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

EN 200, *Sanitary tapware — Single taps and combination taps (PN 10) - General technical specification*

EN 248, *Sanitary tapware — General specification for electrodeposited coatings of Ni-Cr*

EN 806-1:2000, *Specifications for installations inside buildings conveying water for human consumption — Part 1: General*

EN 817, *Sanitary tapware — Mechanical mixers (PN 10) — General technical specifications*

EN 1111, *Sanitary tapware — Thermostatic mixing valves (PN 10) — General technical specification*

EN 1112, *Shower outlets for (PN 10) sanitary tapware*

EN 1113, *Showers hoses for (PN 10) sanitary tapware*

EN 1286, *Sanitary tapware — Low pressure mechanical mixing valves — General technical specification*

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EN 1287, *Sanitary tapware — Low pressure thermostatic mixing valves — General technical specifications*

EN 1717:2000, *Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 3822-1, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 1: Method of measurement (ISO 3822-1:1999)*

EN ISO 3822-2, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 2: Mounting and operating conditions for draw-off taps and mixing valves (ISO 3822-2:1995)*

EN ISO 6509, *Corrosion of metals and alloys — Determination of dezincification resistance of brass (ISO 6509:1981)*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 1717:2000 and EN 806-1:2000 and the following apply.

**automatic diverter**

part of sanitary tapware capable of switching the water supply from the shower hose outlet (secondary outlet) to the bath outlet (primary outlet) in the event of insufficient supply pressure. It incorporates the following characteristics:

- a) means of manually diverting flow to a hose outlet and of maintaining diversion as long as a positive supply pressure is maintained;
- b) automatic closure of the hose outlet with anticipation and return to air gap discharge when the supply pressure falls below a prescribed minimum;
- c) sufficient mechanical loading to maintain closure of the hose outlet in the event of a negative supply pressure.

For the purpose of this document "automatic diverter HC "is hereafter referred to as "device(s)"

**4 Nominal size and pressure ranges**

The nominal size of non-integrated devices (DN) shall correspond to the denomination of the thread according to Table 1.

Nominal size is not applicable to integrated devices.

For specifications of threads please see 8.2.



Table 1 — Nominal size vs thread size

Thread size	$\frac{1}{2}$	$\frac{3}{4}$
DN	15	20

The device shall be suitable for the pressure ranges specified.

## 5 Designation

The device is designated by:

- a) name;
- b) reference to this document (EN 14506);
- c) family, type;
- d) pressure range (HP or LP);
- e) acoustic group.

EXAMPLE for a designation

Automatic diverter, EN 14506, family H, type C, HP, I

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## 6 Marking and technical documents

### 6.1 Marking

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#### 6.1.1 General

In countries where the use of products made of dezincification resistant materials is not required, the dezincification resistant products according to EN ISO 6509 as well as the products which do not contain zinc, may be marked "DR".

In countries where the use of dezincification resistant materials is required, the dezincification resistant products, as well as the products which do not contain zinc, shall be marked "DR".

#### 6.1.2 Marking for integrated devices

An additional marking required for sanitary tapware shall be indicated by letters indicating family and type of device. The marking shall be visible and permanent, i.e. moulded, engraved, etched or obtained by similar procedures.

#### 6.1.3 Marking for non integrated devices

The marking shall indicate:

- a) name, manufacturer's brand or logo;
- b) arrow indicating normal direction of flow;
- c) nominal size (DN);
- d) acoustic group;
- e) letters indicating family and type of device.

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Marking a), b), c), and e) are obligatory. In case there is no marking for d), the device shall be considered as not classified acoustically.

**6.2 Technical documents**

Each package and/or each batch and/or each catalogue of the supplier/manufacture shall contain technical product information which shall be written in a commonly spoken language of the country in which the product is sold.

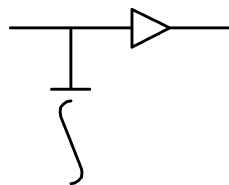
It shall provide the following information:

- a) designation and purpose of the product;
- b) installation instructions;
- c) minimum installation height;
- d) (brand) name and address of the supplier/manufacture;
- e) instructions for maintenance, if any;
- f) spare part list, if any.

For integrated devices, the technical documents for the sanitary fitting, shall state whether the automatic diverter is of an anti pollution type, or whether the hose outlet of the sanitary tapware is protected by some other means against backflow — as required by EN 1717, or, whether additional means for backflow protection has to be installed.

**7 Symbolization**

The graphic representation of the device is as follows (see Figure 1):

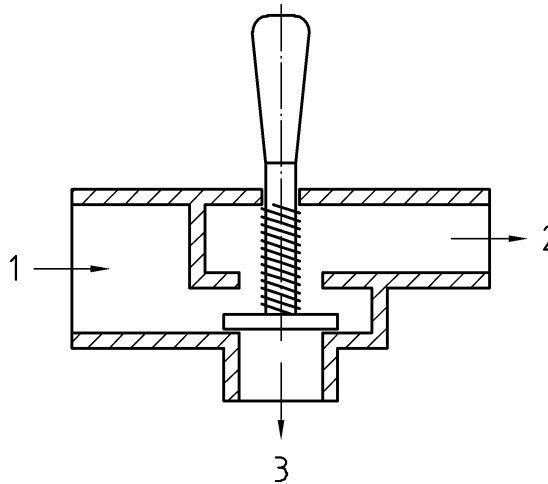


**Figure 1 — Graphic symbol**

## 8 General design characteristics

### 8.1 Design principle

A typical design principle of HC device is given in Figure 2.



#### Key

- 1 Inlet
- 2 Bath
- 3 Shower

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**Figure 2 — Design principle of HC device**

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### 8.2 Connections

For devices supplied as part of a set the connection shall be as specified in the sanitary tapware standards EN 200; EN 817; EN 1111; EN 1112; EN 1113; EN 1286; or EN 1287.

For non integrated devices the following standards shall be applicable:

ISO 7-1 or EN ISO 228-1.

## 9 Physico-chemical characteristics

### 9.1 Materials

The materials and the coatings used, liable to come normally or accidentally in contact with potable water, shall satisfy the EU regulations concerning water quality,

The materials and the coatings shall be:

- a) corrosion resistant in accordance with ISO 9227;
- b) prone to the least scaling possible;
- c) in conformity with the associated standards and regulations;