



# SLOVENSKI STANDARD

## SIST EN 13077:2009

01-januar-2009

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SIST EN 13077:2004

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### Naprave za varovanje pred onesnaženjem pitne vode zaradi povratnega toka - Prosti iztok s prelivom nekrožne oblike (neoviran) - Družina A, tip B

Devices to prevent pollution by backflow of potable water - Air gap with non-circular overflow (unrestricted) - Family A - Type B

Sicherungseinrichtungen zum Schutz des Trinkwassers gegen Verschmutzung durch Rückfließen - Freier Auslauf mit nicht kreisförmigem Überlauf (uneingeschränkt) - Familie A, Typ B

Dispositif de protection contre la pollution de l'eau potable par retour - Surverse avec trop-plein non-circulaire (to-tale) - Famille A - Type B

**Ta slovenski standard je istoveten z: EN 13077:2008**

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#### **ICS:**

13.060.20	Pitna voda	Drinking water
23.060.99	Drugi ventili	Other valves
91.140.60	Sistemi za oskrbo z vodo	Water supply systems

**SIST EN 13077:2009** en,fr,de

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EUROPEAN STANDARD

EN 13077

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2008

ICS 13.060.20; 23.060.99; 91.140.60

Supersedes EN 13077:2003

English Version

## Devices to prevent pollution by backflow of potable water - Air gap with non-circular overflow (unrestricted) - Family A - Type B

Dispositif de protection contre la pollution de l'eau potable par retour - Surverse avec trop-plein non-circulaire (to-tale) - Famille A - Type B

Sicherungseinrichtungen zum Schutz des Trinkwassers gegen Verschmutzung durch Rückfließen - Freier Auslauf mit nicht kreisförmigem Überlauf (uneingeschränkt) - Familie A, Typ B

This European Standard was approved by CEN on 29 May 2008.

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.

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

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## Foreword

This document (EN 13077:2008) 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 December 2008, and conflicting national standards shall be withdrawn at the latest by December 2008.

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 13077:2003.

Compared to the previous edition of the document the following changes have been made:

- a) definitions in Clause 3 revised;
- b) Annex B on alternative overflow arrangements added;
- c) editorial errors corrected.

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 the United Kingdom.

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**EN 13077:2008 (E)****Introduction**

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

- a) this European Standard provides no information as to whether the product may be used without restriction in any of the Member State 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 European Standard specifies the characteristics and the requirements of air gap with non-circular overflow (unrestricted) Family A, Type B for nominal flow velocity not exceeding 3 m/s. Air gaps are devices for protection of potable water in water installations from pollution. This European Standard applies to air gaps in factory-assembled products and to constructed air gaps in situ, and defines the physico-chemical characteristics of materials of construction used for the purpose and application to ensure compliance with this European Standard during normal working use.

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

## 3 Terms and definitions

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

### 3.1

#### **air gap with non-circular overflow (unrestricted) Family A, Type B ("AB" air gap)**

permanent and vertical distance between the lowest point of the inlet orifice and the critical water level, and whose overflow is non-circular in design

NOTE See Figure 1 for the design principle.

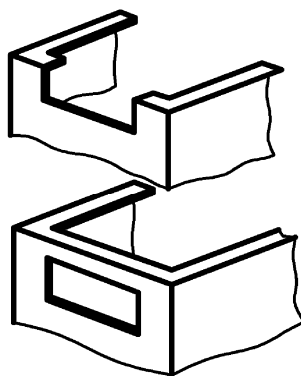


Figure 1 — Design principle

### 3.2

#### **spillover level**

level at which water will start to overflow the receiving vessel with all outlets closed

**EN 13077:2008 (E)**

**3.3 critical water level**  
physical or piezometric level of the liquid reached in any part of the appliance 2 s after closing the water inlet starting from maximum level

**3.4 dimension  $h$**   
height between the spillover level and the critical level

NOTE See 7.4 for measurement and calculation. For example, see Annex A.

**3.5 maximum level**  
highest water level  $H$  reached above the spillover level with flow rate  $Q$  applied and all outlets closed

**3.6 diameter of feed pipe (bore  $D$ )**  
maximum internal diameter (or calculated from the equivalent cross sectional area) found within the last metre of the supply pipe or the DN of the inlet connection

**4 Designation**

An air gap with non-circular overflow (unrestricted) Family A, Type B is designated by:

- name;
- reference to this European Standard, i.e. EN 13077;
- family and type;
- denomination (see 3.7 DN or  $D$ ).

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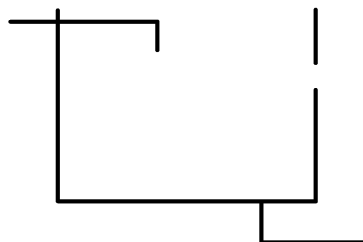
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EXAMPLE Air gap, EN 13077, Family A, Type B, DN 15.

**5 Symbolization**

The graphic representation of the air gap with non-circular overflow (unrestricted) Family A, Type B is as follows (see Figure 2).



**Figure 2 — Graphic symbol**



## 6 Materials

The manufacturer shall state the type of materials chosen in his technical and commercial documents.

The materials used in water installations, including the materials of protection units in contact with drinking water, shall satisfy the European Standards and national acceptance criteria and/or national restrictions for use currently in force in EU and EFTA.

They shall be compatible among themselves and with the water supplied and with the fluids or substances that can come into contact with them.

There are no special requirements concerning the materials downstream of the atmospheric outlet opening provided they do not have any harmful effect on the upstream part.

## 7 Requirements

### 7.1 General

The protection assembly comprises three parts:

- water inlet device;
- receiving vessel (container);
- non-circular overflow.

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### 7.2 Water inlet device

[SIST EN 13077:2009](#)

Every float-operated valve or other device, which controls the inflow of water to a receiving vessel, shall be securely and rigidly fixed to that vessel. [4206f7131c/sist-en-13077-2009](#)

Every feed pipe supplying water to such a valve assembly or other device shall be fixed in its position to prevent it from moving or buckling.

The feed pipe, inlet device and its outlet shall not come into contact in any way with a product from downstream; it shall always be above level  $H$  (see Figure 3).

When maintaining the maximum flow rate at normal operating conditions, if contact is observed between the upstream components and the liquid in the receiving vessel due to splashing, foaming or turbulence, the air gap shall be increased to a point where no contact is observed.