
**Naprave za varovanje pred onesnaženjem pitne vode zaradi povratnega toka -
Ventili za preprečevanje podtlaka DN 10 do DN 50 - Družina D, tip A**

Devices to prevent pollution by backflow of potable water - In-line anti-vacuum valves DN 10 to DN 50 inclusive - Family D, type A

Sicherungseinrichtungen zur Verhütung von Trinkwasserverunreinigung durch Rückfließen - Rohrleitungsbelüfter DN 10 bis einschließlich DN 50 - Familie D, Typ A

Dispositifs de protection contre la pollution de l'eau potable par retour - Soupape anti-vide en ligne DN 10 à DN 50 inclus - Famille D, type A

Ta slovenski standard je istoveten z: prEN 14451

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oSIST prEN 14451:2019**en,fr,de**

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EUROPEAN STANDARD
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English Version

**Devices to prevent pollution by backflow of potable water
- In-line anti-vacuum valves DN 10 to DN 50 inclusive -
Family D, type A**

Dispositifs de protection contre la pollution de l'eau
potable par retour - Soupape anti-vide en ligne DN 10 à
DN 50 inclus - Famille D, type A

Sicherungseinrichtungen zur Verhütung von
Trinkwasserverunreinigung durch Rückfließen -
Rohrleitungsbelüfter DN 10 bis einschließlich DN 50 -
Familie D, Typ A

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 164.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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prEN 14451:2019 (E)**European foreword**

This document (prEN 14451:2019) has been prepared by Technical Committee CEN/TC 164 "Water supply", the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 14451:2005.

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".

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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 in line anti-vacuum valves;
- c) dimensional, the physico-chemical properties and the properties of general hydraulic, mechanical and acoustic design of in-line anti-vacuum valves DN 10 to DN 50;
- d) test method and requirements for verifying these properties;
- e) marking and presentation;
- f) acoustics.

This document specifies the characteristics of in-line anti-vacuum valves DN 10 to DN 50 that are 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.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 248, *Sanitary tapware — General specification for electrodeposited coatings of Ni-Cr*

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

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*

EN 10226-2, *Pipe threads where pressure tight joints are made on the threads — Part 2: Taper external threads and taper internal threads — Dimensions, tolerances and designation*

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)*

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)*

EN ISO 3822-3, *Acoustics — Laboratory tests on noise emission from appliances and equipment used in water supply installations — Part 3: Mounting and operating conditions for in-line valves and appliances (ISO 3822-3)*

EN ISO 5167-1, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 1: General principles and requirements (ISO 5167-1)*

EN ISO 6509-1, *Corrosion of metals and alloys — Determination of dezincification resistance of copper alloys with zinc — Part 1: Test method (ISO 6509-1)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

in-line anti-vacuum valve

mechanical device with an air inlet which is closed when water flows through it at or above atmospheric pressure, but which opens to admit air if there is a subatmospheric pressure at the water inlet or when the flow stops, and closes so as to be watertight when the flow of water is resumed at normal pressure.

Note 1 to entry: In case of subatmospheric pressure the obturator should admit air to the downstream pipework as well as throttling the inlet waterway of the device.

Note 2 to entry: It ensures no protection against back flow by back pressure.

Note 3 to entry: For the purpose of this document “in-line-anti-vacuum valve(s) DA” is hereafter referred to as “device(s)”

4 Nominal size

The nominal size (DN) of the device shall correspond to the denomination of the thread according to Table 1.

For the specification of threads see 8.2.

Table 1 — Nominal size vs thread size

DN	10	15	20	25	32	40	50
Thread size	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2

5 Designation

The devices are designated by:

- name;
- reference to this document (EN 14451);
- family, type;
- nominal size (DN);
- body material;

Example of designation:

In-line anti-vacuum valve, EN 14451, family D, type A, DN 20, CW617N.

6 Marking and technical documents

6.1 General

In countries where the use of products made of dezincification resistant materials is not required, the dezincification resistant products according to EN ISO 6509-1, 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".

6.2 Marking

The devices shall be marked permanently and visibly on the casing or on a fixed data plate.

This information shall be on the upper side or on each lateral side of the device. The indications are to be indelible and obtained by moulding, engraving or similar procedures.

The marking indicates:

- a) name, manufacturer's brand or logo;
- b) arrow indicating normal direction of flow;
- c) nominal size (DN);
- d) acoustic group ($\leq$ DN 32 only);
- e) letters indicating family and type of device;
- f) nominal pressure (PN);
- g) conformance with this document (EN 14451);
- h) maximum operating temperature °C.

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.

6.3 Technical documents

Each package and/or each batch and/or each catalogue of the supplier/manufacturer 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 supplier/manufacturer;
- e) instructions for maintenance, if any;
- f) spare part list, if any;