

Devices to prevent pollution by backflow of potable water — Pressurised air inlet valves DN 15 to DN 50 — Family L, type A and type B

The European Standard EN 14455:2005 has the status of a
British Standard

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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 14455:2005.

The UK participation in its preparation was entrusted by Technical Committee B/504, Water supply, to Subcommittee B/504/4, Backflow prevention.

A list of organizations represented on B/504/4 can be obtained on request to its secretary.

Attention is drawn to the requirement in 10.12 to not remove the test sample from the test rig (Figure 8) whilst conducting the repeated test of 10.7. BSI Technical Committee B/504 is of the opinion that the test rig of 10.7 (Figure 6) should be modified to connect it to the vacuum line of Figure 8 whilst maintaining the essential pipe length “*L*” defined in Figure 6.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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English version

Devices to prevent pollution by backflow of potable water -
Pressurised air inlet valves DN 15 to DN 50 - Family L, type A
and type B

Dispositifs de protection contre la pollution de l'eau potable
par retour - Clapet d'entrée d'air sous pression DN 15 à DN
50 - Famille L, type A et type B

Sicherungseinrichtungen zum Schutz des Trinkwassers
gegen Verschmutzung durch Rückfließen -
Druckbeaufschlagte Rohrbelüfter in Durchflussform DN 15
bis DN 50 - Familie L, Typ A und Typ B

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.

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Foreword

This document (EN 14455:2005) 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.

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.

1 Scope

This document specifies:

- a) field of application;
- b) requirements for pressurised air inlet valves;
- c) dimensional and the physico-chemical properties and the properties of general hydraulic, mechanical and acoustic design of pressurised air inlet valves DN 15 to DN 50;
- d) test procedure and requirements for verifying these properties;
- e) marking and presentation;
- f) acoustics.

This document specifies the characteristics of pressurised air inlet valves DN 15 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 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 806-1:2000, *Specifications for installations inside buildings conveying water for human consumption — Part 1: General*

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

EN 13959, *Anti-pollution check valves — DN 6 to DN 250 inclusive family E, type A, B, C and D*

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 3822-3, *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 3822-3:1997)*

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 5167-1:2003)*

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: Designation, dimensions and tolerances*

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, EN 806-1 and the following apply.

3.1
pressurised air inlet valve "LA"
 valve fitted with one or more air inlet ports which are normally closed, when the water is above or equal to the atmospheric pressure in the valve. The valve opens to admit air if there is a subatmospheric pressure at the water inlet, and closes to be watertight when the flow of water is resumed at normal pressure

NOTE LA protects against back siphonage.

3.2
pressurised air inlet valve combined with a check-valve located downstream "LB"
 valve LA with integrated in-line check valve of family E, type EB, located downstream.

For the purpose of this document, "pressurised air inlet valve(s)" is (are) hereafter referred to as "device(s)"

4 Nominal size

The nominal size of the device shall correspond to the denomination of thread according to Table 1 and ISO 7-1.

Table 1 — Nominal size vs thread size

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

5 Designation

The devices are designated by:

- a) name;
- b) reference to this document (EN 14455);
- c) family, type;
- d) DN;
- e) body material;
- f) acoustic group ($\leq$ DN 32 only).

Example of designation

Pressurised air inlet valve, EN 14455, family L, type A, DN 20, gun metal, I