

Valves for water supply — Fitness for purpose requirements and appropriate verification tests —

Part 1: General requirements

The European Standard EN 1074-1:2000 has the status of a British Standard

ICS 23.060.01; 91.140.60

National foreword

This British Standard is the official English language version of EN 1074-1:2000. Together with BS EN 1074-2:2000, BS 5163-1:2004 and BS 5163-2:2004, this part of BS EN 1074 supersedes BS 5163:1986, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PSE/7, Industrial valves, to Subcommittee PSE/7/3, Cast iron isolating, check and hydrant valves for industrial use and valves for water industry applications, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Additional information

To assist UK users of this standard, Subcommittee PSE/7/7 has produced BS 5163-1, a code of practice that provides guidance on the selection of gate valves for water distribution networks within the UK. The valves discussed are primarily for underground use for waterworks purposes and for use with water intended for human consumption in the UK. This guidance is intended to help identify the most cost-effective way to procure suitable gate valves. The code takes account of the customs and practices developed in the UK water industry for the operation of water distribution pipelines with particular attention to health and safety matters.

The BS EN 1074 series of standards does not specify requirements for stem caps, which are required to satisfy UK operational practices. PSE/7/7 has therefore produced British Standard, BS 5163-2, which covers stem caps for use on isolating valves and associated water control apparatus.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the *BSI Catalogue* under the section entitled “International Standards Correspondence Index”, or by using the “Search” facility of the *BSI Electronic Catalogue* or of British Standards Online.

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 does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 18, an inside back cover and a back cover.

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English version

Valves for water supply – Fitness for purpose requirements and appropriate verification tests – Part 1: General requirements

Robinetterie pour alimentation en eau – Prescriptions d'aptitude à l'emploi et vérifications s'y rapportant - Partie 1: Prescriptions générales

Armaturen für die Wasserversorgung – Anforderung an die Gebrauchlichkeit und deren Prüfung – Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 26 November 1999.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 69, Industrial valves, 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 October 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

It consists of six parts:

Part 1: General requirements

Part 2: Isolating valves

Part 3: Check valves

Part 4: Air valves

Part 5: Control valves

Part 6: Hydrants

Part 1, in conjunction with the subsequent parts, lays down the general requirements and test procedures to be carried out in production and during the assessment of conformity of these valves (type tests). The detailed requirements, which depend on the types of valves, are defined in parts 2 to 6 of this standard.

The annexes A, B, C, D and E of this European Standard are normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the 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 standard:

- 1) This standard provides no information as to whether the product may be used without restriction in any of the Member States of the 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.

1 Scope

This European Standard defines the minimum fitness for purpose requirements for valves to be used in, or connected to, water supply pipe systems, above or below ground (see EN 805), carrying water intended for human consumption.

This standard specifies the general design requirements, the performance requirements and the conformity assessment method for valves, whatever their type and materials.

This standard deals with the requirements that are common to several types of valves; it is applicable only when quoted as reference in one of the other parts of this standard.

2 Normative references

This European Standard incorporates, by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 558-1, *Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems - Part 1: PN - designated valves*.

EN 681-1, *Elastomeric seals - Material requirements for pipe joint seals used in water and drainage applications - Part 1: Vulcanized rubber*.

EN 736-2, *Valves - Terminology - Part 2: Definition of components of valves*.

EN 1092-2, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 2: Cast iron flanges*.

EN 1333, *Pipework components - Definition and selection of PN*.

EN 12627, *Industrial valves - Butt welding ends for steel valves*.

EN 12982, *Industrial valves — End-to-end and centre-to-end dimensions for butt welding end valves*.

EN 45012, *General requirements for bodies operating assessment and certification/registration of quality systems (ISO/IEC Guide 62:1996)*.

EN 60529, *Degrees of protection afforded by the shells (IP code)*.

prEN 19:1999, *Industrial valves – Marking*.

EN 805, *Water supply - Requirements for systems and components outside buildings*.

prEN 1092-1:1997, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories - PN designated - Part 1: Steel flanges*.

prEN 1092-3:1994, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories - Part 3: Copper alloy and composite flanges, PN designated*.

prEN 1092-4:1995, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 4: Aluminium alloy flanges*.

prEN 12266-1:1999, *Industrial valves - Testing of valves - Part 1: Tests, test procedures and acceptance criteria to be fulfilled by every valve*.

EN ISO 6708, *Pipework components - Definition and selection of DN (nominal size) (ISO 6708:1995)*.

EN ISO 9002, *Quality systems - Model for quality assurance in production, installation and servicing (ISO 9002:1994)*.

ISO TR 9080, *Thermoplastics pipes for the transport of fluids - Methods of extrapolation of hydrostatic stress rupture data to determine the long-term hydrostatic strength of thermoplastics pipe materials*.

3 Definitions

For the purpose of this standard, the following definitions apply:

3.1 maximum operating torque (MOT): Higher limit fixed for the torque which, when applied at the entrance point of the mechanical energy, will operate the valve and ensure compliance with the required leakage rate.

3.2 minimum strength torque (mST): Lower limit fixed for the torque which, when applied at the entrance point of the mechanical energy, with the obturator either totally open or totally closed, causes no alteration to the functional capability of the valve.

3.3 entrance point of the mechanical energy: Point where the load (torque) is applied in order to open or close the valve obturator in its delivery condition; it may be the end of the stem, or the input shaft of the reducer when the reducer is an integral part of the valve.

3.4 type test: Test to prove that the design meets the corresponding performance requirements.

3.5 operating mechanism: Mechanism which translates the motion of the operating device to the motion of the obturator (EN 736-2).

3.6 operating device: Manual or power operated device used to operate the bare valve (EN 736-2).

3.7 operating element: Component of the operating device by which the mechanical power is introduced (EN 736-2).

3.8 DN: Alphanumeric designation of the size of pipework components used for reference purposes. It comprises the letters DN followed by a dimensionless round number which is loosely related to the effective dimensions, in millimetres, of the bore or external diameter of the end connections (EN ISO 6708).

3.9 PN: Alphanumeric designation used for reference purposes and related to a combination of mechanical and dimensional characteristics of a component of a pipe system. It comprises the letters PN followed by a dimensionless number (EN 1333).

3.10 PFA, allowable operating pressure: Maximum hydrostatic pressure that a component is capable of withstanding continuously in service (EN 805).