BS EN ISO 4126-1:2013+A2:2019
Incorporating corrigendum October 2013

BSI Standards Publication

Safety devices for protection against excessive pressure

Part 1: Safety valves

bsi.

National foreword

This British Standard is the UK implementation of EN ISO 4126-1:2013+A2:2019. It is derived from ISO 4126-1:2013, incorporating amendment 1:2016. It supersedes BS EN ISO 4126-1:2013+A1:2016, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PSE/18/6, Industrial valves, steam traps, actuators and safety devices against excessive pressure - Safety devices against excessive pressure.

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

Attention is drawn to 6.2 and the implications that hydrostatic pressure testing may be waived for certain types of safety valves. This might result in manufacturers using this standard failing to meet the essential safety requirements of 3.2.2, in the Pressure Equipment Regulations 1999 (as amended). This matter was raised with the Commission Working Group "Pressure" and a guideline issued to clarify the position (WGP Guideline 8/14 can be found on the European Commission website, https://ec.europa.eu/commission/index_en).

Attention is drawn to National Annex NA (informative) and National Annex NB (informative), which are based on BS 6759-1:1984, BS 6759-2:1984 and BS 6759-3:1984. National Annex NA gives advice on performance testing of safety valves for hot water duty for UK users of this European Standard, and enables type test approval to be obtained. National Annex NB provides further supplementary information on materials, springs and the operating system, and guidance on safety valve mounting and installation.

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

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

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Amendments/corrigenda issued since publication

Date	Text affected
31 October 2013	National Annexes NA and NB implemented, additional national foreword text added
31 August 2016	Implementation of ISO amendment 1:2016 with CEN endorsement A1:2016: Subclause 7.2.1 updated
30 June 2019	Implementation of CEN amendment A2:2019: Annex ZA replaced

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4126-1:2013/A2

June 2019

ICS 13.240

English Version

Safety devices for protection against excessive pressure - Part 1: Safety valves (ISO 4126-1:2013)

Dispositifs de sécurité pour protection contre les pressions excessives - Partie 1: Soupapes de sûreté (ISO 4126-1:2013)

Sicherheitseinrichtungen gegen unzulässigen Überdruck - Teil 1: Sicherheitsventile (ISO 4126-1:2013)

This European Standard was approved by CEN on 28 December 2012.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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

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Ref. No. EN ISO 4126-1:2013: E

European foreword

This document (EN ISO 4126-1:2013) has been prepared by Technical Committee ISO/TC 185 "Safety devices for protection against excessive pressure" in collaboration with 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 January 2014, and conflicting national standards shall be withdrawn at the latest by January 2014.

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 ISO 4126-1:2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 4126-1:2013 has been approved by CEN as EN ISO 4126-1:2013 without any modification.

Foreword to amendment A1

This document (EN ISO 4126-1:2013/A1:2016) has been prepared by Technical Committee ISO/TC 185 "Safety devices for protection against excessive pressure" in collaboration with Technical Committee CEN/TC 69 “Industrial valves” the secretariat of which is held by AFNOR.

This Amendment to the European Standard EN ISO 4126-1:2013 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by December 2016.

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Endorsement notice

The text of ISO 4126-1:2013/Amd 1:2016 has been approved by CEN as EN ISO 4126-1:2013/A1:2016 without any modification.

Foreword to amendment A2

This document (EN ISO 4126-1:2013/A2:2019) has been prepared by Technical Committee CEN/TC 69 “Industrial valves”, the secretariat of which is held by AFNOR.

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2014/68/EU (Pressure equipment Directive) aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/071 to provide one voluntary means of conforming to essential requirements of Directive 2014/68/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014 on the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2014/68/EU

Essential Requirements of Directive 2014/68/EU (PED)	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I, 2.3	5.1.5	Provisions to ensure safe handling and operation
Annex I, 2.5	5.1.6	Means of draining and venting
Annex I, 2.11.1	Clauses 5, 6, 7, 8, 9	Safety accessories
Annex I, 3.2.2	6.3	Proof test

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) and services falling within the scope of this standard.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4126-1 was prepared by Technical Committee ISO/TC 185, *Safety devices for protection against excessive pressure*.

This third edition cancels and replaces the second edition (ISO 4126-1:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO 4126-1:2004/Cor.1:2007.

ISO 4126 consists of the following parts, under the general title *Safety devices for protection against excessive pressure*:

— *Part 1: Safety valves*

— *Part 2: Bursting disc safety devices*

— *Part 3: Safety valves and bursting disc safety devices in combination*

— *Part 4: Pilot operated safety valves*

— *Part 5: Controlled safety pressure relief systems (CSPRS)*

— *Part 6: Application, selection and installation of bursting disc safety devices*

— *Part 7: Common data*

— *Part 9: Application and installation of safety devices excluding stand-alone bursting disc safety devices*

— *Part 10: Sizing of safety valves for gas/liquid two-phase flow*

— *Part 11: Performance testing*[1)]

Part 7 contains data that is common to more than one of the parts of ISO 4126 to avoid unnecessary repetition.

1) Under preparation.

INTERNATIONAL STANDARD **ISO 4126-1:2013+A1:2016(E)**

Safety devices for protection against excessive pressure —

Part 1:
Safety valves

1 Scope

This part of ISO 4126 specifies general requirements for safety valves irrespective of the fluid for which they are designed.

It is applicable to safety valves having a flow diameter of 4 mm and above which are for use at set pressures of 0,1 bar gauge and above. No limitation is placed on temperature.

This is a product standard and is not applicable to applications of safety valves.

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.

ISO 4126-7:2013, *Safety devices for protection against excessive pressure — Part 7: Common data*

3 Terms and definitions

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

3.1
safety valve
valve which automatically, without the assistance of any energy other than that of the fluid concerned, discharges a quantity of the fluid so as to prevent a predetermined safe pressure being exceeded, and which is designed to re-close and prevent further flow of fluid after normal pressure conditions of service have been restored

Note 1 to entry: The valve can be characterized either by pop action (rapid opening) or by opening in proportion (not necessarily linear) to the increase in pressure over the set pressure.

3.2
direct loaded safety valve
safety valve in which the loading due to the fluid pressure underneath the valve disc is opposed only by a direct mechanical loading device such as a weight, lever and weight, or spring

3.3
assisted safety valve
safety valve which, by means of a powered assistance mechanism, may additionally be lifted at a pressure lower than the set pressure and will, even in the event of failure of the assistance mechanism, comply with all the requirements for safety valves given in ISO 4126