



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 4126-1:2013&A1:2016

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

## I.S. EN ISO 4126-1:2013&A1:2016

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

EN ISO 4126-1:2013/A1:2016

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

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Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN ISO 4126-1:2013&A1:2016 is the adopted Irish version of the European Document EN ISO 4126-1:2013, Safety devices for protection against excessive pressure - Part 1: Safety valves (ISO 4126-1:2013)

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

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

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EUROPEAN STANDARD

EN ISO 4126-1:2013/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2016

ICS 13.240

English Version

Safety devices for protection against excessive pressure -  
Part 1: Safety valves - Amendment 1 (ISO 4126-  
1:2013/Amd 1:2016)

Dispositifs de sécurité pour protection contre les  
pressions excessives - Partie 1: Soupapes de sûreté -  
Amendement 1 (ISO 4126-1:2013/Amd 1:2016)

Sicherheitseinrichtungen gegen unzulässigen  
Überdruck - Teil 1: Sicherheitsventile - Änderung 1  
(ISO 4126-1:2013/Amd 1:2016)

This amendment A1 modifies the European Standard EN ISO 4126-1:2013; it was approved by CEN on 19 May 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

**EN ISO 4126-1:2013/A1:2016 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

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.

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 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.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of EN ISO 4126-1:2013.

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

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 4126-1**

July 2013

ICS 13.240

Supersedes EN ISO 4126-1:2004

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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**EN ISO 4126-1:2013 (E)**

<b>Contents</b>	<b>Page</b>
<b>Foreword.....</b>	<b>3</b>
<b>Annex ZA (informative) Relationship between this International Standard and the Essential Requirements of EU Directive 97/23/EC (PED) .....</b>	<b>4</b>

## **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.

## Annex ZA (informative)

### Relationship between this International Standard and the Essential Requirements of EU Directive 97/23/EC (PED)

By agreement between ISO and CEN, this CEN annex is included in the DIS and the FDIS but will not appear in the published ISO standard.

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 97/23/EC (PED).

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, 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 International Standard and Directive 97/23/EC (PED)**

Sub-clauses of this International Standard	Essential Requirements of Directive 97/23/EC (PED)	
	Essential Requirements	Annex I of PED
5,6,7,8,9	Safety accessories	2.11.1
5.1.5	Safety of operation	2.3
5.1.6	Drain and venting	2.5
6.3	Proof test	3.2.2
10	Marking and labelling	3.3

**WARNING:** Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

# INTERNATIONAL STANDARD

# ISO 4126-1

Third edition  
2013-07-15

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## **Safety devices for protection against excessive pressure —**

### **Part 1: Safety valves**

*Dispositifs de sécurité pour protection contre les pressions excessives —  
Partie 1: Soupapes de sûreté*



Reference number  
ISO 4126-1:2013(E)

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## ISO 4126-1:2013(E)



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# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols and units</b> .....	<b>4</b>
<b>5 Design</b> .....	<b>4</b>
5.1 General.....	4
5.2 Valve end connections.....	5
5.3 Minimum requirements for springs.....	5
5.4 Materials.....	6
<b>6 Production testing</b> .....	<b>6</b>
6.1 Purpose.....	6
6.2 General.....	6
6.3 Hydrostatic testing.....	6
6.4 Pneumatic testing.....	7
6.5 Adjustment of set or cold differential test pressure.....	8
6.6 Seat leakage test.....	8
<b>7 Type testing</b> .....	<b>8</b>
7.1 General.....	8
7.2 Tests to determine operating characteristics.....	9
7.3 Tests to determine flow characteristics.....	11
7.4 Determination of the coefficient of discharge.....	12
7.5 Certification of coefficient of discharge.....	12
<b>8 Determination of safety valve performance</b> .....	<b>13</b>
<b>9 Sizing of safety valves</b> .....	<b>13</b>
<b>10 Marking and sealing</b> .....	<b>13</b>
10.1 Marking.....	13
10.2 Sealing of a safety valve.....	13
<b>Bibliography</b> .....	<b>14</b>

## ISO 4126-1:2013(E)

### 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<sup>1)</sup>*

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

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1) Under preparation.

# 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



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