INTERNATIONAL STANDARD

ISO 4126-5

First edition
2004-03-15

Safety devices for protection against excessive pressure —

Part 5: Controlled safety pressure relief systems (CSPRS)

Dispositifs de sécurité pour protection contre les pressions excessives —

Partie 5: Dispositifs de sûreté à décharge contrôlés contre les surpressions (DSDCS)

Reference number
ISO 4126-5:2004(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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 4126-5 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 185, *Safety devices for protection against excessive pressure*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 4126-5, together with those of ISO 4126-2, ISO 4126-3, ISO 4126-4 and ISO 4126-6, cancels and replaces ISO 6718:1991, of which it constitutes a technical revision.

Throughout the text of this document, read "...this European Standard..." to mean "...this International Standard...".

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*

For the purposes of this part of ISO 4126, the CEN annex regarding fulfilment of European Council Directives has been removed.

It should be noted that, with regard to the corresponding EN standard, the designations given in Clause 10 have been adapted to the needs of international standardization.

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Foreword

This document (EN ISO 4126-5:2004) has been prepared by Technical Committee CEN/TC 69 “Industrial valves”, the secretariat of which is held by AFNOR, in collaboration with Technical Committee ISO/TC 185 “Safety devices for protection against excessive pressure”.

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 August 2004, and conflicting national standards shall be withdrawn at the latest by August 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.

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.

This standard for safety devices for protection against excessive pressure consists of seven parts of which this is Part 5. The various parts are:

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 7 contains data that is common to more than one of the parts of this standard to avoid unnecessary repetition.

1 Scope

This part of this European Standard specifies the requirements for Controlled Safety Pressure Relief Systems irrespective of the fluid for which they are designed.

It is applicable for main valves having a flow diameter of 6 mm and above which are for use at pressures of 0,1 bar gauge and above. No limitation is placed on temperature.

This is a product standard and is not concerned with applications.

2 Normative references

This European Standard incorporates by dated or undated reference, 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 (including amendments).

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

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

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

prEN 1759-1, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, Class designated - Part 1: Steel flanges NPS 1/2 to 24.*

EN 12516-3, *Valves – Shell design strength – Part 3: Experimental method.*

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

EN 12760, *Valves – Socket welding ends for steel valves.*

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

IEC 61508 (all parts), *Functional safety of electrical/electronic/programmable electronic safety related systems.*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation.*

ANSI B1.20.1, *NPT threads.*

3 Terms and definitions

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

3.1
controlled safety pressure relief system (CSPRS)
system consisting of a main valve in combination with control units (see Figure 1a, 1b and 1c)

NOTE On reaching the set pressure the controlling forces on the main valve are by means of the control unit automatically applied, released or so reduced that a main valve discharges a specified quantity of the fluid so as to prevent the predetermined