# Petroleum, petrochemical and natural gas industries - Pressure-relieving and depressuring systems

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| Käesolev Eesti standard EVS-EN ISO 23251:2008 sisaldab Euroopa standardi EN ISO 23251:2007 ingliskeelset teksti. | This Estonian standard EVS-EN ISO 23251:2008 consists of the English text of the European standard EN ISO 23251:2007. |
| Standard on kinnitatud Eesti Standardikeskuse 28.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas. | This standard is ratified with the order of Estonian Centre for Standardisation dated 28.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation. |
| Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on . | Date of Availability of the European standard text . |
| Standard on kättesaadav Eesti standardiorganisatsioonist. | The standard is available from Estonian standardisation organisation. |



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EUROPEAN STANDARD

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## Petroleum, petrochemical and natural gas industries - Pressure-relieving and depressuring systems (ISO 23251:2006)

Industries du pétrole, de la pétrochimie et du gaz naturel - Systèmes de dépressurisation et de protection contre les surpressions (ISO 23251:2006)

Erdöl-, petrochemische und Erdgasindustrie - Druckentlastungs- und Druckausgleichssysteme (ISO 23251:2006)

This European Standard was approved by CEN on 12 July 2007.

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 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 Management Centre has the same status as the official versions.

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

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Ref. No. EN ISO 23251:2007: E

## Foreword

The text of ISO 23251:2006 has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum and natural gas industries" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23251:2007 by Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries", 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 2008, and conflicting national standards shall be withdrawn at the latest by January 2008.

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

### Endorsement notice

The text of ISO 23251:2006 has been approved by CEN as EN ISO 23251:2007 without any modifications.

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# Introduction

This International Standard is based on the draft 5th edition of API RP 521, with the intent that the 6th edition of API RP 521 will be identical to this International Standard.

The portions of this International Standard dealing with flares and flare systems are an adjunct to API Std 537 [10], which addresses mechanical design, operation and maintenance of flare equipment. It is important for all parties involved in the design and use of a flare system to have an effective means of communicating and preserving design information about the flare system. To this end, API has developed a set of flare data sheets, which can be found in of API Std 537, Appendix A. The use of these data sheets is both recommended and encouraged as a concise, uniform means of recording and communicating design information.

# Petroleum, petrochemical and natural gas industries — Pressure-relieving and depressuring systems



## 1 Scope

This International Standard is applicable to pressure-relieving and vapour-depressuring systems. Although intended for use primarily in oil refineries, it is also applicable to petrochemical facilities, gas plants, liquefied natural gas (LNG) facilities and oil and gas production facilities. The information provided is designed to aid in the selection of the system that is most appropriate for the risks and circumstances involved in various installations. This International Standard is intended to supplement the practices set forth in ISO 4126 or API RP 520-I for establishing a basis of design.

This International Standard specifies requirements and gives guidelines for examining the principal causes of overpressure; and determining individual relieving rates; and selecting and designing disposal systems, including such component parts as piping, vessels, flares, and vent stacks. This International Standard does not apply to direct-fired steam boilers.

Piping information pertinent to pressure-relieving systems is presented in 7.3.1.

## 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 (all parts), *Safety devices for protection against excessive pressure*

API RP 520-I:2000, *Sizing, Selection and Installation of Pressure-Relieving Devices in Refineries — Part I: Sizing and Selection* [1)]

## 3 Terms and definitions

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

**3.1**
**accumulation**
pressure increase over the maximum allowable working pressure of the vessel allowed during discharge through the pressure-relief device

NOTE Accumulation is expressed in units of pressure or as a percentage of MAWP or design pressure. Maximum allowable accumulations are established by pressure-design codes for emergency operating and fire contingencies.

1) American Petroleum Institute, 1220 L Street, N.W., Washington, D.C., 20005-4070, USA.