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# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

**EN 764-7** 

May 2002

ICS 23.020.30

#### English version

# Pressure equipment - Part 7: Safety systems for unfired pressure equipment

Equipements sous pression - Partie 7: Systèmes de sécurité ppour équipements sous pression non soumis à la flamme

Druckgeräte - Teil 7: Sicherheitseinrichtungen für unbefeuerte Druckgeräte

This European Standard was approved by CEN on 29 April 2002.

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 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 Management Centre 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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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#### **Foreword**

This document EN 764-7:2002 has been prepared by Technical Committee CEN/TC 54 "Unfired pressure vessels", the secretariat of which is held by BSI with support of Technical Committee CEN/TC 267 "Industrial piping".

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of an identical text or by endorsement, at the latest by November 2002, and conflicting national standards shall be withdrawn at the latest by November 2002.

This document has been prepared under a mandate given to CEN by the European Commission (EC) and the European Free Trade Association, and supports the essential safety requirements of the Pressure Equipment Directive (PED) 97/23/EC.

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

This European Standard consists of the following parts:

- Part 1: Definitions of pressure, temperature and volume.
- Part 2: Quantities, symbols and units.
- Part 3: Definition of parties involved.
- Part 4: Establishment of technical delivery conditions for metallic materials.
- Part 5: Inspection documentation of metallic materials and compliance with the material specification.
- Part 6: Operating instructions.
- Part 7: Safety systems for unfired pressure equipment.

Annexes A, C, E of this European Standard are informative. Annexes B and D 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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

#### Introduction

A safety system can be the ultimate limitation to protect pressure equipment from exceeding its allowable limits or a means to prevent a potentially hazardous situation leading to injury. These limits consist of permissible pressure, temperature, level, flow or a combination of these which were fixed at the design stage. Regular control and/or monitoring devices which are not a necessary part of a safety systems are excluded from this standard since they become active in advance of a safety system (see Figure 1).

It is essential to consider not only the pressure relieving device or safety related measurement, control and regulation system (SRMCR) but the whole of the pressure relief system so as not to reduce the relieving capacity or adversely effect the proper operation of the pressure relieving devices. Operating problems frequently occur in pressure relief systems because of incorrect selection of the appropriate device or because a correctly selected device was adversely affected by improper handling, incorrect installation or lack of maintenance.

In some cases it can be necessary to establish the basic details of the safety system before selecting the value of the maximum allowable pressure *PS* for the equipment to be protected. Some safety systems need a usual margin between the maximum operating pressure and their reseating pressure which has to be considered before selecting *PS*.

NOTE The role of harmonized standards in supporting the essential safety requirements of European Directives is described in the "Guide to the implementation of directives based on the New Approach and the Global Approach". It can be necessary for products to meet the requirements of more than one directive and it is the responsibility of the manufacturer to ensure that these requirements are complied with. Annex ZA draws attention to the essential safety requirements of EU Directive 97/23/EC "Pressure Equipment Directive" addressed by this standard. This standard also draws attention to subjects which are not covered in detail but are relevant to safety systems.