Tööpinkide ohutus. Pneumaatilised pressid KONSOLIDEERITUD TEKST

Safety of machine tools - Pneumatic presses
CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13736:2003+A1:2009 sisaldab Euroopa standardi EN 13736:2003+A1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 13736:2003+A1:2009 consists of the English text of the European standard EN 13736:2003+A1:2009.
Standard on kinnitatud Eesti Standardikeskuse 27.03.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 27.03.2009 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 11.02.2009.	Date of Availability of the European standard text 11.02.2009.
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Võtmesõnad: machine components, metal working, protection, protection devices, protective devices, protective measures, safety, safety design, safety requirements, sample surveys, specification (approval), specifications, surveillance (approval), vibration, workplace safety

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English Version

Safety of machine tools - Pneumatic presses

Sécurité des machines-outils - Presses pneumatiques

Sicherheit von Werkzeugmaschinen - Pneumatische Pressen

This European Standard was approved by CEN on 15 November 2002 and includes Corrigendum 1 issued by CEN on 21 July 2004 and Amendment 1 approved by CEN on 29 December 2008.

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
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Contents

Foreword

This document (EN 13736:2003+A1:2009) has been prepared by Technical Committee CEN/TC 143 "Machine tools – Safety", the secretariat of which is held by SNV.

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 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This European Standard was approved by CEN on 15 November 2002 and includes Corrigendum 1 issued by CEN on 21 July 2004 and Amendment 1 approved by CEN on 29 December 2008.

This document supersedes EN 13736:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] 〈A1].

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags [AC] 〈AC].

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).

[A1] For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. 〈A1]

Organisation contributing to the preparation of this European Standard include the European Manufacturer Association CECIMO.

NOTE The safety requirements related to the use of PES or PPS will be dealt with at its next revision.

The European Standards produced by CEN/TC 143 are particular to machine-tools and complement the relevant A and B standards on the subject of general safety (see introduction of EN 292-1:1991 for a description of A, B and C standards).

Annexes A, B and E are normative. Annexes C and D are informative.

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.

Introduction

This European Standard has been prepared to be a harmonized standard to provide one means of conforming with the essential safety requirements of the ”Machinery“ Directive and associated EFTA Regulations. It is a C-type standard as described in EN 1070:1998.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this standard. When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this C type standard take precedence over the provisions of other standards, for machines that have been designed and built according to the provisions of this type C standard.

Complementary guidance is given in the A and B standards to which reference is made in the text (see clause 2). The figures are intended to be examples only and not to give the only interpretation of the text.

The requirements of this European Standard concern designers, manufacturers, suppliers and importers of machines described in the scope.

This standard also includes information to be provided by the manufacturer to the user.

1 Scope

1.1 This European Standard specifies technical safety requirements and protective measures to be adopted by persons undertaking the design as defined in 3.11 of EN 292-1:1991, manufacture and supply of pneumatic presses the intended use of which is the cold working of metal or material partly of metal as defined in 3.1.13 and hereafter referred as machines.

This standard also applies to machines which are integrated into an automatic production line where the hazards and risk arising are comparable to those of machines working separately.

1.2 This standard also covers pneumatic presses:

— whose primary intended use is the cold working of metal, which are to be used in the same way to work other sheet materials (e.g. cardboard, plastic, rubber, leather) and metal powder;

— with an intermediate pneumatic/hydraulic intensifier.

1.3 The requirements in this standard take account of intended use, as defined in 3.12 of EN 292-1:1991. This standard presumes access to the press from all directions, deals with the hazards described in clause 4, and specifies the safety measures for both the operator and other exposed persons.

1.4 This standard also applies to ancillary devices which are an integral part of the press. This standard also applies to machines which are integrated into an automatic production line where the hazards and risk arising are comparable to those of machines working separately.

1.5 This standard does not cover machines whose principal designed purpose is:

a) sheet metal cutting by guillotine;

b) bending or folding by pneumatic press brakes or folding machines;

c) spot welding;

d) tube bending;

e) straightening;

f) drop stamping;

g) working by pneumatic hammer;

h) compaction of metal powder.

Special pneumatic machines for assemblying or calibrating are not covered but this standard may be used as a basis for there machines.

1.6 This standard does not cover the safety requirements related to the use of PES or PPS. They will be dealt with at its next revision.

1.7 This standard is not applicable to machines which are manufactured before the date of publication of this document by CEN.

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 292-1:1991, *Safety of machinery – Basic concepts, general principles for design – Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles and specifications.*

〉AC〈 EN 292-2/A1:1995, *Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles and specifications – Amendment A1* 〉AC〈

EN 294:1992, *Safety of machinery – Safety distance to prevent danger zones being reached by the upper limbs.*

EN 349:1993, *Safety of machinery – Minimum gaps to avoid crushing of parts of the human body.*

EN 418:1992, *Safety of machinery – Emergency stop equipment, functional aspects – Principles for design.*

EN 574:1996, *Safety of machinery – Two-hand control devices – Functional aspects - Principles for design.*

EN 614-1 *Safety of machinery – Ergonomic design principles – Part 1: Terminology and general principles.*

EN 894-2:1997, *Safety of machinery – Ergonomics requirements for the design of displays and control actuators – Part 2: Displays.*

EN 894-3:2000, *Safety of machinery – Ergonomics requirements for the design of displays and control actuators – Part 3: Control actuators.*

EN 953:1997, *Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards.*

EN 954-1:1996, *Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design.*

EN 982:1996*, Safety of machinery – Safety requirements for fluid power systems and their components – Hydraulics.*

EN 983:1996, *Safety of machinery – Safety requirements for fluid power systems and their components – Pneumatics.*

EN 999:1998, *Safety of machinery – The positioning of protective equipment in respect of approach speeds of parts of the human body.*

prEN 1005-2:1998, *Safety of machinery – Human physical performance – Part 2: Manual handling of machinery and component parts of machinery.*

EN 1037, *Safety of machinery – Prevention of unexpected start-up.*

EN 1050:1996, *Safety of machinery – Principles for risk assessment.*

EN 1070:1998, *Safety of machinery – Terminology.*

EN 1088:1995, *Safety of machinery – Interlocking devices associated with guards – Principles for design and selection.*

EN 1127-1:1997, *Explosive atmospheres – Explosion prevention and protection – Part 1: Basic concepts and methodology.*

EN 1837:1999, *Safety of machinery – Integral lighting of machines.*

EN ISO 3746:1995, *Acoustics – Determination of sound power levels of noise sources using sound pressure – Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:1995).*

EN ISO 4871:1996, *Acoustics – Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996).*

EN ISO 11202:1995, *Acoustics – Noise emitted by machinery and equipment – Measurement of emission sound pressure levels at a work station and at other specified positions – Survey method in situ (ISO 11202:1995).*

EN ISO 11688-1:1998, *Acoustics – Recommended practice for the design of low-noise machinery and equipment – Part 1: Planning (ISO/TR 11688-1:1995).*

EN 60204-1:1997, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:1997).*

EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989).*

EN 61310-2:1995, *Safety of machinery – Indication, marking and actuation – Part 2: Requirements for marking (IEC 61310-2:1995).*

EN 61496-1:1997, *Safety of machinery – Electro-sensitive protective equipment – Part 1: General requirements and test (IEC 61496-1:1997).*

prEN 61496-2:1997, *Safety of machinery – Electro-sensitive protective equipment – Part 2: Particular requirements for equipment using active opto-electronic devices (IEC 61496-2).*