Masinate ohutus. Hüdroajamiga süsteemide ja nende komponentide ohutusnõuded. Hüdraulika KONSOLIDEERITUD TEKST

Safety of machinery - Safety requirements for fluid power systems and their components - Hydraulics CONSOIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 982:1999+A1:2008 sisaldab Euroopa standardi EN 982:1996+A1:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 982:1999+A1:2008 consists of the English text of the European standard EN 982:1996+A1:2008.
Standard on kinnitatud Eesti Standardikeskuse 15.12.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 15.12.2008 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 10.09.2008.	Date of Availability of the European standard text 10.09.2008.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 23.100.01

Võtmesõnad:

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 982:1996+A1

September 2008

ICS 23.100.01

Supersedes EN 982:1996

English Version

Safety of machinery - Safety requirements for fluid power systems and their components - Hydraulics

Sécurité des machines - Prescriptions de sécurité relative aux systèmes et leurs composants de transmissions hydrauliques et pneumatiques - Hydraulique

Sicherheit von Maschinen - Sicherheitstechnische Anforderungen an fluidtechnische Anlagen und deren Bauteile - Hydraulik

This European Standard was approved by CEN on 11 March 1996 and includes Amendment 1 approved by CEN on 27 July 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.

CEN members are the national standards bodies of 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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 982:1996+A1:2008: E

Contents

Page

Foreword

This document (EN 982:1996+A1:2008) has been prepared by Technical Committee CEN/TC 114 “Safety of machinery”, the secretariat of which is held by DIN.

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 March 2009, and conflicting standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-07-27.

This document supersedes EN 982:1996.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟩A1⟨ ⟨A1⟩.

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⟩

It was developed to contribute towards unification of safety regulations and procedures in the various member countries for each aspect dealt within the field of hydraulics for fluid power systems and their components. This Standard utilizes the most recently validated technical information from established technical sources (e.g. CEN, ISO, national standards and European documents).

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 standard is a type B2 standard (according to EN 292-1) and contains the general requirements for hydraulic systems and their components on machinery. For type C standard makers, it is a basis for the development of specific requirements on dedicated machines. If no type C standards are available, it is a basis for the manufacturers when constructing machines that include hydraulic systems and their components.

In developing this standard, safety related requirements out of ISO 4413 were selected as well as additional safety related requirements.

Equivalent safety requirements for pneumatic systems are defined in EN 983 "Safety of machinery – Safety requirements for fluid power systems and their components – Pneumatics".

1 Scope

This standard applies to hydraulic systems and their components on machinery. It identifies hazards and factors which affect the safety of systems and their components when they are put to their intended use.

The principles specified apply to the design, construction and modification of new systems and their components and aspects of use including:

— Assembly

— Installation

— Adjustment

— Operation

— Cleaning

— Maintenance.

Components are covered in the standard but only to the extent that safety requirements are given to allow the components to be safely integrated into a system's design.

The standard applies to systems and their components on machinery that are manufactured after the date of the adoption of this standard.

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.

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.*

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

EN 563, *Safety of machinery – Temperature of touchable surfaces – Ergonomic data to establish temperature limit values for hot surfaces.*

prEN 954-1:1992, *Safety of machinery - Safety related parts of control systems — Part 1: General principles for design.*

prEN 1050:1992, *Safety of machinery - Risk assessment*

ENV 1070, *Safety of machinery – Terminology.*

prEN 1127-1:1993, *Safety of machinery – Fire and explosions – Part 1: Explosion prevention and protection.*

EN 50081-2, *Electromagnetic compatibility – Generic emission standard – Part 2: Industrial environment.*

prEN 50082-2:1994, *Electromagnetic compatibility – Generic immunity standard – Part 2: Industrial environment.*

EN 60204-1:1992, *Safety of machinery - Electrical equipment of machines – Part 1: General requirements (IEC 204-1:1992, modified).*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 529:1989).*

ISO 1219-1, *Fluid power systems and components – Graphic symbols and circuit diagrams – Part 1: Graphic symbols.*

ISO/DIS 1219-2:1993, *Fluid power systems and components – Graphic symbols and circuit diagrams – Part 2: Circuit diagrams.*

ISO 4021, *Hydraulic fluid power – Particulate contamination analysis – Extraction of fluid samples from lines of an operating system*.

ISO 5598, *Fluid power systems and components - Vocabulary*.

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

3 Definitions

For the purposes of this standard, the definitions of ENV 1070 and the following apply. Other definitions not included are given in ISO 5598.

3.1
fluid power
the means whereby signals and energy can be transmitted, controlled and distributed using a pressurized fluid as the medium

3.2
system
arrangement of interconnected components which transmits and controls fluid power energy