



**SLOVENSKI STANDARD**  
**SIST EN 809:2000/kprA1:2009**

**01-maj-2009**

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Pumps and pump units for liquids - Common safety requirements

Pumpen und Pumpenaggregate für Flüssigkeiten - Allgemeine sicherheitstechnische Anforderungen

Pompes et groupes motopompes pour liquides - Prescriptions communes de sécurité

**Ta slovenski standard je istoveten z: EN 809:1998/prA1**

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**ICS:**

23.080            ;] æ ^            Pumps

**SIST EN 809:2000/kprA1:2009**            en,fr



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**FINAL DRAFT**  
**EN 809:1998**

**prA1**

February 2009

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ICS 23.080

English Version

## Pumps and pump units for liquids - Common safety requirements

Pompes et groupes motopompes pour liquides -  
Prescriptions communes de sécurité

Pumpen und Pumpenaggregate für Flüssigkeiten -  
Allgemeine sicherheitstechnische Anforderungen

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 197.

This draft amendment A1, if approved, will modify the European Standard EN 809:1998. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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

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**EN 809:1998/prA1:2009 (E)****Foreword**

This document (EN 809:1998/prA1:2009) has been prepared by Technical Committee CEN/TC 197 "Pumps", the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

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## 1 Modification to the Foreword

*Replace the fourth paragraph with the following:*

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

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## 2 Modification to the Introduction

*Replace the second paragraph with:*

"This European Standard is a type C standard as stated in EN ISO 12100-1.

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

The extent to which hazards are covered is indicated in Clause 4 "List of hazards" of this European Standard."

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## 3 Modification to Clause 1, Scope

*Replace the previous scope with the following:*

"This European Standard establishes the technical safety requirements for:

- constructing;
- assembling;
- erecting;
- operating;
- servicing;

a liquid pump or pump unit. It contains a list of significant hazards, which can arise with the use of a liquid pump or pump unit, and establishes the requirements and/or protective measures which will lead to a reduction of the risks.

Liquid pumps covered by this European Standard are:

- rotodynamic pumps;
- rotary positive displacement pumps;

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— reciprocating displacement pumps;

supplied separately without drive (electric motor or internal combustion engine).

In general, pumps are defined as being terminated by their inlet and outlet connections as well as by their shaft ends. Pumps supplied in this form are usually called bareshaft pump.

Pumps supplied in this form are known as bareshaft pumps. The assembly of a bareshaft pump with its driver can require measures that are outside the scope of this European Standard.

Pump units are described as:

Liquid pumps together with a driver and including transmission elements, baseplates, and any auxiliary equipment.

This European Standard does not deal either with the technical safety requirements for the design or manufacture of drivers nor of auxiliary equipment. It does not set down either requirements for the risks directly arising from means provided for the portability, transportability and mobility of pump units during or between periods of their operation, nor the requirements for transmission shafts linking a tractor or other self-propelled machinery to a pump.

This European Standard does not cover pumps and pump units for the following applications:

- pumps and pump units whose only power source is directly applied manual effort;
- pumps and pump units for medical use used in direct contact with the patient;
- pumps and pump units specially designed or put into service for nuclear purposes which, in the event of failure, can result in an emission of radioactivity;
- pumps and pump units for use on seagoing vessels or mobile off-shore units;
- pumps and pump units specially designed for military or police purposes.

Neither does it cover pumps and pump units for hydraulic power transmission.

This European Standard does not apply to specific types of pumps and pump units which are within the scope of another relevant standard such as EN 1028, EN 1829 and EN 13951.

This European Standard is not applicable to pumps and pump units which are manufactured before the date of publication of this European Standard."

#### **4 Modification to Clause 2, Normative references**

*Replace the existing text of Clause 2 with the following:*

"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.

EN 349, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 894-1, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays control actuators*



- EN 894-2, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*
- EN 894-3, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*
- EN 953, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*
- EN 1037, *Safety of machinery — Prevention of unexpected start-up*
- EN 12162, *Liquid pumps — Safety requirements — Procedure for hydrostatic testing*
- EN 12723, *Liquid pumps — General terms for pumps and installations — Definitions, quantities, letter symbols and units*
- EN 60034-5:2001, *Rotating electrical machines — Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) — Classification (IEC 60034-5:2000)*
- EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*
- EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*
- EN ISO 5199, *Technical specifications for centrifugal pumps — Class II (ISO 5199:2002)*
- EN ISO 9905, *Technical specifications for centrifugal pumps — Class I (ISO 9905:1994)*
- EN ISO 9908, *Technical specifications for centrifugal pumps — Class III (ISO 9908:1993)*
- EN ISO 12100-1, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*
- EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*
- EN ISO 13850, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*
- EN ISO 13857, *Safety of machinery — Safety distances to prevent hazard zones being reached by the upper and lower limbs (ISO 13857:2008)*
- EN ISO 14121-1, *Safety of machinery — Risk assessment — Part 1: Principles (ISO 14121-1:2007)*
- EN ISO 14847, *Rotary positive displacement pumps — General requirements (ISO 14847:1999)*
- EN ISO 20361, *Liquid pumps and pump units — Noise test code — Grades 2 and 3 of accuracy (ISO 20361:2007)".*

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## 5 Modification to Clause 3, Definitions

*Replace "prEN 12723 "Liquid pumps - General terms for pumps and installations - Definitions, quantities, letter symbols and units" with "EN 12723".*

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Add a new term and definition 3.2 as follows:

**"3.2****partly completed machinery/pump**

assembly of components which still needs a considerable number of additional components or at least one major component to fulfil its task

NOTE Subassemblies without any hydraulic component is not be classified as partly completed machinery."

**6 Modification to Clause 4, List of hazards**

Replace the introductive text of Clause 4 with the following:

"The significant hazards are set out in the following listing based on EN ISO 12100-1 and EN ISO 12100-2. Also shown are the sections references in this European Standard in which the safety requirements and/or measures or rules are described for showing the conformity to the safety requirements.

In addition, machinery shall comply as appropriate with EN ISO 12100-1 for hazards which are not covered by this European Standard."

Modify the previous Table 1 by:

- replace the title with "Table 1 — List of hazards";
- deleting the first column "EN 414 Annex A reference";
- adding for the line "Errors of fitting", the reference to 7.3 (add "and 7.3") in the column "Safety measures";
- adding a new line "Resulting from machinery lifting" as follows:

"

Resulting from machinery lifting	5.2.1.5 and 7.2.2	6.2.2 and 6.2.3
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"

in order to obtain the following modified Table 1: