

Reciprocating positive displacement pumps and pump units - Technical requirements

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 16330:2003 sisaldab Euroopa standardi EN ISO 16330:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 17.09.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 16330:2003 consists of the English text of the European standard EN ISO 16330:2003.</p> <p>This document is endorsed on 17.09.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies the technical requirements, other than safety and testing, for reciprocating positive displacement pumps and pump units. This standard applies to pumps which utilise reciprocating motion derived from crankshafts and camshafts and also direct-acting fluid driven pumps</p>	<p>Scope:</p> <p>This European Standard specifies the technical requirements, other than safety and testing, for reciprocating positive displacement pumps and pump units. This standard applies to pumps which utilise reciprocating motion derived from crankshafts and camshafts and also direct-acting fluid driven pumps</p>
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ICS 23.080

Võtmesõnad:

ICS 23.080

English version

**Reciprocating positive displacement pumps and
pump units**

Technical requirements
(ISO 16330 : 2003)

Pompes volumétriques à mouvement
alternatif – Prescriptions techniques
(ISO 16330 : 2003)

Oszillierende Verdrängerpumpen –
Technische Anforderungen
(ISO 16330 : 2003)

This European Standard was approved by CEN on 2003-01-02.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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

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Foreword

The document (EN ISO 16330:2003) has been prepared by Technical Committee CEN/TC 197 "Pumps", the secretariat of which is held by AFNOR, in collaboration with Technical Committee ISO/TC 115 "Pumps".

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 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

The annexes A, C and D are informative. Annex B is 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard is applicable to both direct-acting and power pump types. It is applicable to series production pumps or pump units, limited production pumps or pump units and custom production pumps and pump units. It specifies all the technical requirements for reciprocating positive displacement pumps and reciprocating positive displacement pump units with the exception of safety and testing. Safety and testing of positive displacement pumps and reciprocating positive displacement pump units are specified in the following European Standards:

EN 809 *Pumps and pump units - Common safety requirements.*

EN 12162 *Liquid pumps - Procedure for hydrostatic testing.*

EN 12639 *Liquid pumps and pump units- Noise test code - Grades 2 and 3 of accuracy.*

prEN 14343 *Positive displacement pumps - Performance tests for acceptance.*

Users of this European Standard should be aware that further or differing requirements may be needed for individual applications. This European Standard is not intended to inhibit a supplier from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This may be particularly applicable where there is innovative or developing technology. Where an alternative is offered, the supplier should identify any variations from this European Standard and provide details.

1 Scope

This European Standard specifies the technical requirements, other than safety and testing, for reciprocating positive displacement pumps and pump units. This standard applies to pumps which utilise reciprocating motion derived from crankshafts and camshafts and also direct-acting fluid driven pumps.

This European Standard does not apply to reciprocating positive displacement pumps, not pumping water, where the whole pump is lubricated with the liquid being pumped.

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 287-1	<i>Approval testing of welders - Fusion welding - Part 1: Steels (equivalent to ISO 9606-1).</i>
EN 287-2	<i>Approval testing of welders - Fusion welding - Part 2: Aluminium and aluminium alloys (equivalent to ISO 9606-2).</i>
EN 288-1	<i>Specification and qualification of welding procedures for metallic materials - Part 1: General rules for fusion welding (equivalent to ISO 9956-1).</i>
EN 288-2	<i>Specification and approval of welding procedures for metallic materials - Part 2: Welding procedure specification for arc welding (equivalent to ISO 9956-2).</i>
EN 288-3	<i>Specification and approval of welding procedures for metallic materials - Part 3: Welding procedure tests for the arc welding of steels (equivalent to ISO 9956-3).</i>
EN 288-4	<i>Specification and approval of welding procedures for metallic materials - Part 4: Welding procedure tests for the arc welding of aluminium and its alloys (equivalent to ISO 9956-4).</i>
EN 809	<i>Pumps and pump units for liquids - Common safety requirements.</i>
prEN 10226-1	<i>Pipe threads where pressure tight joints are made on the threads – Part 1: Taper external threads and parallel internal threads - Dimensions, tolerances and designation.</i>
EN 12639	<i>Liquid pumps and pump units - Noise test code - Grade 2 and grade 3 of accuracy.</i>
EN 12723:2000	<i>Liquid pumps - General terms for pumps and installations - Definitions, quantities, letter symbols and units.</i>
EN 20898-2	<i>Mechanical properties of fasteners - Part 2: Nuts with specified proof load values - Coarse thread (ISO 898-2:1992).</i>
prEN ISO 228-1	<i>Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000).</i>

EN ISO 898-1	<i>Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs (ISO 898-1:1999).</i>
EN ISO 9934-1	<i>Non-destructive testing - Magnetic particle testing - Part 1: General principles (ISO 9934-1:2001).</i>
ISO 14	<i>Straight-sided splines for cylindrical shafts with internal centering - Dimensions, tolerances and verification.</i>
ISO 1027	<i>Radiographic image quality indicators for non-destructive testing - Principles and identification.</i>
ISO 2491	<i>Thin parallel keys and their corresponding keyways (Dimensions in millimetres).</i>
ISO 2492	<i>Thin taper keys with or without gib head and their corresponding keyways (Dimensions in millimetres).</i>
ISO 3117	<i>Tangential keys and keyways.</i>
ISO 3453	<i>Non-destructive testing - Liquid penetrant inspection - Means of verification.</i>
ISO 3912	<i>Woodruff keys and keyways.</i>
ISO 4156	<i>Straight cylindrical involute splines - Metric module, side fit - Generalities, dimensions and inspection.</i>
ISO 6149-1	<i>Connections for fluid power and general use - Ports and stud ends with ISO 261 threads and O-ring sealing - Part 1: Ports with O-ring seal in truncated housing.</i>
ISO 6149-2	<i>Connections for fluid power and general use - Ports and stud ends with ISO 261 threads and O-ring sealing - Part 2: Heavy duty (S series) stud ends - Dimensions, design, test methods and requirements.</i>
ISO 6149-3	<i>Connections for fluid power and general use - Ports and stud ends with ISO 261 threads and O-ring sealing - Part 3: Light duty (L series) stud ends - Dimensions, design, test methods and requirements.</i>
ISO 6162-1:2002	<i>Hydraulic fluid power – Flange connectors with split or one-piece flange clamps and metric or inch screws – Part 1: Flange connectors for use at pressures of 3,5 Mpa (35 bar) to 35 Mpa (350 bar), DN 13 to DN 127.</i>
ISO 6162-2:2002	<i>Hydraulic fluid power – Flange connectors with split or one-piece flange clamps and metric or inch screws – Part 2 Flange connectors for use at pressures of 35 Mpa (350 bar) to 40 Mpa (400 bar), DN 13 to DN 51.</i>
ISO 6164	<i>Hydraulic fluid power -- Four-screw, one-piece square-flange connections for use at pressures of 25 MPa and 40 MPa (250 bar and 400 bar)</i>
ISO 7005-1	<i>Metallic flanges - Part 1: Steel flanges.</i>
ISO 7005-2	<i>Metallic flanges - Part 2: Cast iron flanges.</i>
ISO 7005-3	<i>Metallic flanges - Part 3: Copper alloy and composite flanges.</i>
ISO 10375	<i>Non-destructive testing - Ultrasonic inspection - Characterization of search unit and sound field.</i>