

### SLOVENSKI STANDARD oSIST prEN ISO 21049:2010

01-maj-2010

### Črpalke - Sistemi grednih tesnilk za centrifugalne in rotacijske črpalke (ISO/DIS 21049:2010)

Pumps - Shaft-sealing systems for centrifugal and rotary pumps (ISO/DIS 21049:2010)

Pumpen - Wellendichtungssysteme für Kreiselpumpen und rotierende Verdrängerpumpen (ISO/DIS 21049:2010)

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Pompes - Dispositifs d'étanchéité de l'arbre pour pompes centrifuges et rotatives (ISO/DIS 21049:2010)

oSIST prEN ISO 21049:2010

Ta slovenski standard je istoveten z 51/osist pre i so 21/049

ICS:

21.140 Tesnilke, mašilke Seals, glands

23.080 Črpalke Pumps

oSIST prEN ISO 21049:2010 en,fr

**oSIST prEN ISO 21049:2010** 

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### EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

## DRAFT prEN ISO 21049

March 2010

ICS 83.140.50; 23.080; 23.100.60

Will supersede EN ISO 21049:2004

#### **English Version**

### Pumps - Shaft-sealing systems for centrifugal and rotary pumps (ISO/DIS 21049:2010)

Pompes - Dispositifs d'étanchéité de l'arbre pour pompes centrifuges et rotatives (ISO/DIS 21049:2010)

Pumpen - Wellendichtungssysteme für Kreiselpumpen und rotierende Verdrängerpumpen (ISO/DIS 21049:2010)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 12.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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### prEN ISO 21049:2010 (E)

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# iTeh STANDARD PREVIEW (standards.iteh.ai)

prEN ISO 21049:2010 (E)

### **Foreword**

This document (prEN ISO 21049:2010) has been prepared by Technical Committee ISO/TC 115 "Pumps" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries" the secretariat of which is held by AFNOR.

This document is currently submitted to the parallel Enquiry.

This document will supersede EN ISO 21049:2004.

#### **Endorsement notice**

The text of ISO/DIS 21049:2010 has been approved by CEN as a prEN ISO 21049:2010 without any modification.

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#### **DRAFT INTERNATIONAL STANDARD ISO/DIS 21049**

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### Pumps — Shaft-sealing systems for centrifugal and rotary pumps

Pompes — Dispositifs d'étanchéité de l'arbre pour pompes centrifuges et rotatives

[Revision of first edition (ISO 21049:2004)]

ICS 23.080; 23.100.60; 83.140.50

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#### ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the ISO-lead mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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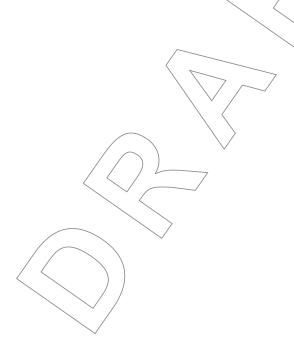
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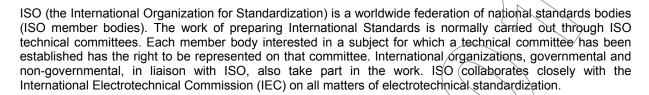


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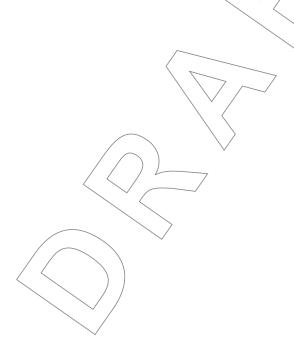
Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 21049 was prepared by Technical Committee ISO/TC 115, *Pumps*, Subcommittee SC 3, *Installation and special applications*, in collaboration with Technical Committee ISO/TC 67, *Materials*, equipment and offshore structures for petroleum, petrochemical and natural gas industries, SC 6, *Processing equipment and systems*.

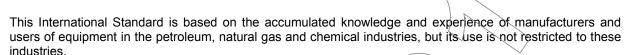
This second edition cancels and replaces the first edition (150 21049:2004), which has been technically revised.

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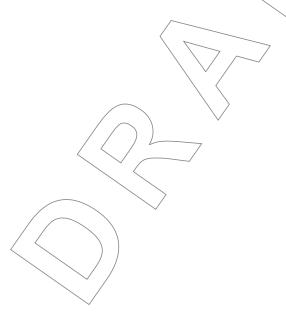
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The purpose of this International Standard is to assist purchasers with the selection and operation of mechanical seals for pumps.

In this International Standard, where practical, US Customary units are included in brackets for information.

A bullet (•) at the beginning of a clause or subclause indicates that either a decision is required or further information is to be provided by the purchaser. This information should be indicated on data sheets or stated in the enquiry or purchase order (see examples in Annex C).

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### Pumps — Shaft-sealing systems for centrifugal and rotary pumps

### 1 Scope

This International Standard specifies requirements and gives recommendations for sealing systems for centrifugal and rotary pumps used in the petroleum, natural gas and chemical industries. It is applicable mainly for hazardous, flammable and/or toxic services where a greater degree of reliability is required for the improvement of equipment availability and the reduction of both emissions to the atmosphere and life-cycle sealing costs. It covers seals for pump shaft diameters from 20 mm (0,75 in) to 110 mm (4,3 in).

This International Standard is also applicable to seal spare parts and can be referred to for the upgrading of existing equipment. A classification system for the seal configurations covered by this International Standard into categories, types, arrangements and orientations is provided.

This International Standard is a stand-alone seal standard and is referenced normatively in ISO 13709. It is applicable to both new and retrofitted pumps, and to pumps other than ISO 13709 pumps (e.g. ASME B73.1, ASME B73.2 and API 676 pumps).

This International Standard might also be referenced by other machinery standards such as other pumps, compressors and agitators. Users are cautioned that this International Standard is not specifically written to address all of the potential applications that a purchaser may specify. This is especially true for the size envelope specified for ISO 21049 seals. The purchaser and seal vendor shall mutually agree on the features taken from this International Standard and used in the application.

### 2 Normative References

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.

ISO 7 (all parts), Pipe threads where pressure-tight joints are made on the threads

ISO 261, ISO general-purpose metric screw threads — General plan

JSO 262, ISO general-purpose metric screw threads — Selected sizes for screws, bolts, and nuts

ISO 286-2, ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts

ISO 724, ISO general-purpose metric screw threads — Basic dimensions

ISO 965 (all parts), ISO general-purpose metric screw threads — Tolerances

ISO 7005-1, Metallic flanges — Part 1: Steel flanges

ISO 10438 (all parts), Petroleum, petrochemical and natural gas industries — Lubrication, Shaft-sealing and control-oil systems and auxiliaries

ISO 13709, Centrifugal pumps for petroleum, petrochemical and natural gas industries

ISO 15649, Petroleum and natural gas industries — Piping

IEC 60079 (all parts), Electrical apparatus for explosive gas atmospheres

IEC 60529, Degrees of protection provided by enclosures (IP code)

AISI, Standards, codes and specifications of the American from and Steel Institute 1)

API RP 520 (all parts), Sizing, selection, and installation of pressure-relieving devices in refineries <sup>2)</sup>

API Std 526, Flanged steel pressure relief valves

ASME V, ASME Boiler and pressure vessel code, Section V, Non-destructive examination 3)

ASME VIII, ASME Boiler and pressure vessel code, Section VIII, Rules for the construction of pressure vessels

ASME IX, ASME Boiler and pressure vessel code, Section IX, Welding and brazing qualifications

ASME B1.1, Unified inch screw/threads (UN and UNR thread form)

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ASME B1.20.1, Pipe threads, general purposet inch iso-21049-2010

ASME B16.11, Forged fittings, socket-welding and threaded

ASME B16.20, Metallic gaskets for pipe flanges — Ring joint, spiral-wound, and jacketed

ASME B31.3, Process Piping

ASME B73.1, Specification for horizontal end suction centrifugal pumps for chemical process

ASME B73.2, Specification for vertical in-line centrifugal pumps for chemical process

ASME PTC 8/2, Centrifugal pumps, performance test codes

AWS D1.1, Structural welding code — Steel 4)

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Available from the American Iron and Steel Institute: 1140 Connecticut Ave., Suite 705, Washington, D.C. 20036, USA.

Available from the American Petroleum Institute, 1220 L Street, NW, Washington, D.C. 20005-4070, USA.

<sup>3)</sup> Available from the American Society of Mechanical Engineers: Three Park Avenue, New York, NY 10016-5990, USA.