

Tsentrifugaalpumpade tehnilised andmed. Klass II

Technical specifications for centrifugal pumps - Class II

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 25199:1999 sisaldab Euroopa standardi EN 25199:1992 ingliskeelset teksti.

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This standard is ratified with the order of Estonian Centre for Standardisation dated 12.12.1999 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

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English version

**Technical specifications for centrifugal pumps -
Class II (ISO 5199:1986)**

Spécifications techniques pour pompes
centrifuges - Classe II (ISO 5199:1986)

Kreiselpumpen, technische Anforderungen -
Klasse II (ISO 5199:1986)

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CEN

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

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Foreword

On proposal of the Technical Committee CEN/TC 197 "Pumps", the Technical Board of CEN decided to submit the International Standard :

ISO 5199:1986 "Technical specifications for centrifugal pumps - Class II"

to the formal vote.

The result of the formal vote was positive.

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of an identical text or by endorsement, at the latest by april 1993, and conflicting national standards shall be withdrawn at the latest by april 1993.

In accordance with the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard :

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of the International Standard ISO 5199:1986 was approved by CEN as a European Standard without any modification.

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International Standard



5199

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 5199 was prepared by Technical Committee ISO/TC 115, *Pumps*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Technical specifications for centrifugal pumps — Class II

0 Introduction

This International Standard is the first of a series dealing with technical specifications for centrifugal pumps; they correspond to three classes of technical specifications, I, II and III, of which class I has the most severe, and class III the least severe requirements.

Where a decision may be required by the purchaser, or agreement is required between purchaser and manufacturer, the relevant text is printed in bold typeface and listed in annex H.

1 Scope and field of application

1.1 This International Standard covers class II requirements for centrifugal pumps of back pull-out construction as used primarily in the chemical and petrochemical industries. However the Standard, or individual clauses of it, can be applied in other industries, for general industrial use or to pump designs other than of back pull-out construction.

1.2 Pumps as specified in ISO 2858 are typical of those conforming to this International Standard.

1.3 This International Standard includes design features concerned with installation, maintenance and safety for these pumps, including baseplate couplings and auxiliary piping but excluding the driver.

1.4 Where application of this International Standard has been called for

a) and a specific design feature is required, alternative designs which meet the intent of the Standard may be offered, provided that the alternative is described in detail;

b) pumps not complying with all requirements of the Standard may be offered for consideration provided that all deviations are stated.

1.5 Whenever the documents include contradicting technical requirements, they shall apply in the following sequence:

- a) purchase order (or enquiry if no order is placed) (see annexes F and G);
- b) data sheets (see annex A);

c) this International Standard;

d) other standards to which reference is made in the order or enquiry.

2 References

To the extent specified in the text, the following International Standards are used in the application of this Standard.

ISO 76, *Rolling bearings — Static load ratings.*

ISO 281/1, *Rolling bearings — Dynamic load ratings and rating life — Part 1: Calculation methods.*

ISO 1940, *Balance quality of rotating rigid bodies.*

ISO 2084, *Pipeline flanges for general use — Metric series — Mating dimensions.*

ISO 2229, *Equipment for the petroleum and natural gas industries — Steel pipe flanges, nominal sizes 1/2 to 24 in — Metric dimensions.*

ISO 2372, *Mechanical vibration of machines with operating speeds from 10 to 200 rev/s — Basis for specifying evaluation standards.*

ISO 2373, *Mechanical vibration of certain rotating electrical machinery with shaft heights between 80 and 400 mm — Measurement and evaluation of the vibration severity.*

ISO 2548, *Centrifugal, mixed flow and axial pumps — Code for acceptance tests — Class C.*

ISO 2858, *End-suction centrifugal pumps (rating 16 bar) — Designation, nominal duty point and dimensions.*

ISO 3069, *End-suction centrifugal pumps — Dimensions of cavities for mechanical seals and for soft packing.*

ISO 3274, *Instruments for the measurement of surface roughness by the profile method — Contact (stylus) instruments of consecutive profile transformation — Contact profile meters, system M.*

ISO 3555, *Centrifugal, mixed flow and axial pumps — Code for acceptance tests — Class B.*

ISO 3661, *End-suction centrifugal pumps — Baseplate and installation dimensions.*

ISO 3744, *Acoustics — Determination of sound power levels of noise sources — Engineering methods for free-field conditions over a reflecting plane.*

ISO 3746, *Acoustics — Determination of sound power levels of noise sources — Survey method.*

3 Definitions

Terms in this International Standard which are not self-explanatory are defined as follows.

3.1 operating conditions: All parameters (for example, operating temperature, operating pressure) determined by a given application and pumped liquid. These parameters will influence the type of construction and construction materials.

3.2 allowable operating range: The flow range at the specified operating conditions with the impeller supplied as limited by cavitation, heating, vibration, noise, shaft deflection and other similar criteria. This range shall be defined by the manufacturer.

3.3 rated conditions: Conditions (driver excluded) that define the (guarantee) point necessary to meet all defined operating conditions, taking into account any necessary margins.

3.4 rated driver output: The maximum permissible driver output under site operating conditions.

3.5 basic design pressure: This is derived from the permitted stresses at 20 °C of the material used for the pressure-containing parts.

3.6 rated pressure: The pressure limit at the most severe operating conditions in a given application.

3.7 rated inlet pressure: The inlet pressure which, with the rated head (converted to pressure) at rated flow, results in the rated outlet pressure.

3.8 rated outlet pressure: Outlet pressure of the pump at rated flow, rated head (converted to pressure) rated inlet pressure.

3.9 pressure - temperature rating: Relationship between pressure and temperature given in the form of a graph (see below).

