

Pumps - Rotodynamic pumps - Circulation pumps having a rated power input not exceeding 200 W for heating installations and domestic hot water installations - Part 1: Non-automatic circulation pumps, requirements, testing, marking

Pumps - Rotodynamic pumps - Circulation pumps having a rated power input not exceeding 200 W for heating installations and domestic hot water installations - Part 1: Non-automatic circulation pumps, requirements, testing, marking

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1151-1:2006 sisaldab Euroopa standardi EN 1151-1:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1151-1:2006 consists of the English text of the European standard EN 1151-1:2006.</p> <p>This document is endorsed on 29.06.2006 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>
--	---

<p>Käsitlusala:</p> <p>This part of EN 1151 establishes general principles for the construction, use and testing of circulation pumps of the glandless type, having a rated power input $P_1 \leq 200$ W, intended to be used in heating installations and domestic hot water service installations.</p>	<p>Scope:</p> <p>This part of EN 1151 establishes general principles for the construction, use and testing of circulation pumps of the glandless type, having a rated power input $P_1 \leq 200$ W, intended to be used in heating installations and domestic hot water service installations.</p>
--	--

ICS 23.080

Võtmesõnad:

English Version

Pumps - Rotodynamic pumps - Circulation pumps having a rated power input not exceeding 200 W for heating installations and domestic hot water installations - Part 1: Non-automatic circulation pumps, requirements, testing, marking

Pompes - Pompes rotodynamiques - Circulateurs de puissance absorbée n'excédant pas 200 W, destinés aux installations de chauffage central et d'eau chaude sanitaire domestique - Partie 1: Circulateurs non auto-régulés, exigences, essais, marquage

Pumpen - Kreiselpumpen - Umwälzpumpen mit elektrischer Leistungsaufnahme bis 200 W für Heizungsanlagen und Brauchwassererwärmungsanlagen für den Hausgebrauch - Teil 1: Nicht-automatische Umwälzpumpen, Anforderungen, Prüfung, Kennzeichnung

This European Standard was approved by CEN on 27 February 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Symbols and units	7
5 Performance and safety requirements	7
5.1 Hydraulic characteristic	7
5.2 Rated power	7
5.3 Starting characteristics	7
5.4 Resistance to internal pressure	7
5.5 Temperature resistance	7
5.6 Resistance to thermal cycling	7
5.7 Venting and deblocking	8
5.8 Material- and design requirement	8
5.9 Fluid and structure borne noise emission	8
6 Test methods.....	8
6.1 General.....	8
6.2 Testing of the hydraulic characteristic.....	8
6.2.1 General.....	8
6.2.2 Test conditions	9
6.2.3 Testing of hydraulic performance.....	10
6.3 Measurement of rated power input.....	11
6.4 Starting conditions	11
6.5 Testing of resistance to internal pressure	11
6.6 Testing of temperature resistance	11
6.7 Testing of resistance to thermal cycling.....	12
6.7.1 Motor supply voltage.....	12
6.7.2 Intermittent operation.....	12
6.8 Venting and deblocking	13
6.9 Toxicity, biological and microbiological test.....	13
7 Information for use	13
7.1 General.....	13
7.2 Instruction handbook	13
7.3 Marking	14
Annex A (informative) Additives	15
Bibliography	16

Foreword

This document (EN 1151-1:2006) has been prepared by Technical Committee CEN/TC 197 "Pumps", the secretariat of which is held by AFNOR.

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 October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

This document, together with EN 1151-2:2006, supersedes EN 1151:1999.

EN 1151 consists of the following parts under the general title *Pumps — Rotodynamic pumps — Circulation pumps having a rated power input not exceeding 200 W for heating installations and domestic hot water installations*:

-Part 1: *Non-automatic circulation pumps, requirements, testing, marking*

-Part 2: *Noise test code (vibro-acoustics) for measuring structure and fluid-borne noise*

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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

For the purpose of this document, circulation pumps having a rated power input ≤ 200 W are generally considered for domestic use and circulation pumps having a rated power input > 200 W are considered for professional/commercial use.

1 Scope

This part of EN 1151 establishes general principles for the construction, use and testing of circulation pumps of the glandless type, having a rated power input $P_1 \leq 200$ W, intended to be used in heating installations and domestic hot water service installations.

NOTE The requirements of this document may apply to circulation pumps for domestic use having a rated power input above 200 W up to and including 300 W. However, this decision depends on agreement between the supplier and purchaser.

Circulation pumps with a rated power input above 200 W for professional/commercial use are excluded from the scope of this document.

This document applies to:

- a) A.C. circulation pumps having a rated power input $P_1 \leq 200$ W intended for use in ordinary heating water systems with a maximum permissible inlet temperature of $T_F \leq 110$ °C and a maximum outlet working pressure $p_{2\max o} \leq 6$ bar.
- b) A.C. circulation pumps having a rated power input $P_1 \leq 200$ W intended for use in domestic hot water installations with a permissible inlet temperature of $T_F \leq 65$ °C and a maximum outlet working pressure $p_{2\max o} \leq 10$ bar.

This document applies to circulation pumps, which are manufactured after the date of issue of this document.

This document covers the performance for circulation pumps. All known hazards which are likely to occur at normal installation and operation are covered by the European Standards EN 809 and EN 60335-2-51.

As regards safety for electrotechnical parts of circulation pumps, EN 60335-2-51 applies.

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.

EN 1151-2, Pumps — Rotodynamic pumps — *Circulation pumps having a rated power input not exceeding 200 W for heating installations and domestic hot water installations — Part 2: Noise test code (vibro-acoustics) for measuring structure- and fluid-borne noise*

EN 60034-1, *Rotating electrical machines - Part 1: Rating and performance (IEC 60034-1:2004)*

EN 60335-2-51:2003, *Household and similar electrical appliances — Safety — Part 2-51: Particular requirements for stationary circulation pumps for heating and service water installations (IEC 60335-2-51:2002)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

HD 472 S1:1989, *Nominal voltages for low voltage public electricity supply systems*