EESTI STANDARD

EVS-EN 1151-2:2006

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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 (vibroacoustics) for measuring structure- and fluid-borne noise

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA	NATIONAL FOREWORD
Käesolev Eesti standard EVS-EN 1151-2:2006 sisaldab Euroopa standardi EN 1151-2:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 29.06.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1151-2:2006 consists of the English text of the European standard EN 1151-2:2006. This document is endorsed on 29.06.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This part of EN 1151 specifies a test code for the vibro-acoustic characterisation of circulation pumps as defined in EN 1151-1, and is limited to circulation pumps with threaded connections of 1½ inch. The test code comprises the test rig, the measurement method and the test conditions.	**Scope:** This part of EN 1151 specifies a test code for the vibro-acoustic characterisation of circulation pumps as defined in EN 1151-1, and is limited to circulation pumps with threaded connections of 1½ inch. The test code comprises the test rig, the measurement method and the test conditions.

ICS 23.080

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EUROPEAN STANDARD

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Supersedes EN 1151:1999

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

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 2: Code d'essai acoustique (vibro-acoustique) pour le mesurage des bruits solidiens et de liquide

Pumpen - Kreiselpumpen - Umwälzpumpen mit elektrischer Leistungsaufnahme bis 200 W für Heizungsanlagen und Brauchwassererwärmungsanlagen für den Hausgebrauch - Teil 2: Geräuschprüfvorschrift (vibro-akustisch) zur Messung von Körperschall und Flüssigkeitsschall

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

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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.

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Foreword

This document (EN 1151-2:2006) 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 1151-1:2006, 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*.

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Introduction

This part of EN 1151 covers the measurement of fluid and structure-borne noise as induced by small circulation pumps. It has been prepared in response to the need of having uniform procedures as requirements for noise levels especially in residential housing, tightened by national and European regulations. The issue of airborne noise is covered by other standards.

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1 Scope

This part of EN 1151 specifies a test code for the vibro-acoustic characterisation of circulation pumps as defined in EN 1151-1, and is limited to circulation pumps with threaded connections of 1½ inch. The test code comprises the test rig, the measurement method and the test conditions.

The characterisation principle is based on measuring the structure-borne and the fluid-borne power transmitted respectively by vibration and pressure fluctuations in the pipe connected to a circulation pump.

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 1151-1:2006, *Pumps — Rotodynamic pumps — Circulation pumps having a ratecd power input not exceeding 200 W for heating installations and domestic hot water installations — Part 1: Non-automatic circulation pumps, requirements, testing, marking.*

ISO 2016, *Capillary solder fittings for copper tubes — Assembly dimensions and tests*.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1151-1:2006 and the following apply.

3.1
fluid-borne intensity
I_{fb}
time averaged rate of flow of the acoustic energy per cross section of fluid transmitted lengthways the straight pipe by internal pressure fluctuations

NOTE 1 Its sign can be positive or negative indicating the sense of energy propagation.

NOTE 2 Fluid-borne intensity is expressed in W/m^2.

3.2
fluid-borne power
P_{fb}
net acoustic power emitted by a source of pressure fluctuations in the connected straight pipe ⟨circulation pumps⟩

NOTE 1 Fluid-borne power is always positive.

NOTE 2 Fluid-borne power is expressed in W.

3.3
structure-borne intensity
I_{sb}
time averaged rate of flow of the vibrational energy per unit of length transmitted lengthways the straight pipe by vibration

NOTE 1 Its sign can be positive or negative indicating the sense of energy propagation.

NOTE 2 I_{sb} is an average of the structure borne intensity over the pipe wall thickness and is therefore expressed in W/m.

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