

<b>STN</b>	<b>Čerpadlá. Hydrodynamické čerpadlá. Bezupchávkové obehové čerpadlá s menovitým elektrickým príkonom do 200 W pre vykurovacie systémy a pre systémy na prípravu teplej úžitkovej vody v domácnosti. Skúšobný predpis (vibroakustika) na meranie hluku prenášaného konštrukciou a kvapalinou.</b>	<b>STN EN 16644</b>
		11 3151

Pumps - Rotodynamic pumps - Glandless circulators having a rated power input not exceeding 200 W for heating installations and domestic hot water installations - Noise test code (vibro-acoustics) for measuring structure- and fluid-borne noise

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/15

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Oznámením tejto normy sa ruší  
STN EN 1151-2 (11 3150) z októbra 2006

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Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, odbor SÚTN, 2015  
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

## English Version

**Pumps - Rotodynamic pumps - Glandless circulators having a rated power input not exceeding 200 W for heating installations and domestic hot water installations - Noise test code (vibro-acoustics) for measuring structure- and fluid-borne noise**

Pompes - Pompes rotodynamiques - Circulateurs sans presse-étoupe de puissance absorbée n'excédant pas 200 W, destinés au chauffage central et à la distribution d'eau chaude sanitaire domestique - Code d'essai acoustique (vibro-acoustique) pour le mesurage des bruits de structure et hydrauliques

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

This European Standard was approved by CEN on 2 November 2014.

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 CEN-CENELEC Management Centre or to any CEN member.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Contents

Page

Foreword.....	4
Introduction .....	5
1 Scope .....	6
2 Normative references .....	6
3 Terms and definitions .....	6
4 Symbols and units .....	8
5 Test rig .....	8
5.1 General.....	8
5.2 Main components of test rig.....	8
5.3 Specification of test rig components.....	10
5.4 Assembly .....	13
5.5 Foundation .....	13
5.6 Qualifications .....	13
5.7 Instrumentation.....	13
5.7.1 Measurement of pressure fluctuations.....	13
5.7.2 Measurement of vibration .....	13
5.8 Calibration .....	14
5.8.1 Accelerometers .....	14
5.8.2 Pressure transducers.....	14
5.8.3 Calibration of accelerometers and pressure transducers.....	14
5.9 Propagation coefficients .....	14
6 Installation and operation .....	15
6.1 Installation .....	15
6.2 Operating parameters .....	16
6.2.1 General.....	16
6.2.2 Test conditions .....	16
6.3 Initial operation time.....	17
7 Factors influencing measurements .....	17
7.1 Electromagnetic surroundings.....	17
7.2 Earth loops .....	17
7.3 Vibration surroundings .....	18
8 Determination of fluid- and structure-borne powers .....	18
8.1 Frequency range.....	18
8.2 Measurement parameters .....	18
8.2.1 Pressure fluctuation measurement parameters .....	18
8.2.2 Vibration measurement parameters .....	18
8.3 Sense of power propagation .....	19
8.4 Fluid-borne power determination.....	19
8.4.1 General.....	19
8.4.2 Fluid-borne intensity .....	19
8.4.3 Fluid-borne power.....	20
8.5 Structure-borne power determination .....	20
8.5.1 General.....	20
8.5.2 Structure-borne intensity.....	20
8.5.3 Structure-borne power .....	21

<b>8.6</b>	<b>Overall values of power .....</b>	<b>21</b>
<b>8.7</b>	<b>Coefficients of energy propagation and power levels.....</b>	<b>21</b>
<b>8.7.1</b>	<b>Coefficient of fluid-borne energy propagation .....</b>	<b>21</b>
<b>8.7.2</b>	<b>Coefficient of structure-borne energy propagation .....</b>	<b>21</b>
<b>8.7.3</b>	<b>Fluid-borne power level .....</b>	<b>22</b>
<b>8.7.4</b>	<b>Structure-borne power level.....</b>	<b>22</b>
<b>9</b>	<b>Information to be reported.....</b>	<b>22</b>
<b>Annex A (informative) Bending wave number and intensity dimensional constant .....</b>		<b>23</b>
<b>Bibliography.....</b>		<b>25</b>

## Foreword

This document (EN 16644:2014) 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 June 2015 and conflicting national standards shall be withdrawn at the latest by June 2015.

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.

This document supersedes EN 1151-2:2006.

This standard replaces EN 1151-2:2006 as a result of the withdrawal of EN 1151-1 and the issuing of the EN 16297 series as its replacement and is expanded to include cooling systems.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Introduction**

This document covers the measurement of fluid and structure-borne noise as induced by small glandless circulators having a rated input of  $\leq 200$  W. 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.

## 1 Scope

This European Standard specifies a test code for the vibro-acoustic characterization of glandless circulators with pump housing having a rated power input  $P_1 \leq 200\text{W}$ , intended to be used in heating installations, domestic hot water service installations and cooling systems, and is limited to glandless circulators with threaded connections of 1 1/2 inch. The test code comprises the test rig, the measurement method and the test conditions.

This European Standard applies to glandless circulators, which are manufactured after the date of issue of this European Standard.

The characterization 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 glandless circulator.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16297-1:2012, *Pumps — Rotodynamic pumps — Glandless circulators — Part 1: General requirements and procedures for testing and calculation of energy efficiency index (EEI)*

EN 50160, *Voltage characteristics of electricity supplied by public distribution networks*

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

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**