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STN	**Čerpadlá a čerpacie agregáty na kvapaliny. Predpisy na skúšanie hluku. Triedy presnosti 2 a 3 (ISO 20361: 2015).**	**STN EN ISO 20361** 11 0040

Liquid pumps and pump units - Noise test code - Grades 2 and 3 of accuracy (ISO 20361:2015)

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. 10/15

Obsahuje: EN ISO 20361:2015, ISO 20361:2015

Oznámením tejto normy sa ruší
STN EN ISO 20361 (11 7020) zo septembra 2009

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20361

June 2015

ICS 17.140.20; 23.080

Supersedes EN ISO 20361:2009

English Version

Liquid pumps and pump units - Noise test code - Grades 2 and 3 of accuracy (ISO 20361:2015)

Pompes et groupes motopompes pour liquides - Code d'essai acoustique - Classes de précision 2 et 3 (ISO 20361:2015)

This European Standard was approved by CEN on 17 April 2015.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN ISO 20361:2015) has been prepared by Technical Committee ISO/TC 115 “Pumps” in collaboration with 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of an identical text or by endorsement, at the latest by December 2015, and conflicting national standards shall be withdrawn at the latest by December 2015.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 ISO 20361:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

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.

Endorsement notice

The text of ISO 20361:2015 has been approved by CEN as EN ISO 20361:2015 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this European standard confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive (EHSR 1.7.4.2 u)) and associated EFTA regulations.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 20361

Second edition
2015-06-01

Liquid pumps and pump units — Noise test code — Grades 2 and 3 of accuracy

Pompes et groupes motopompes pour liquides — Code d'essai acoustique — Classes de précision 2 et 3

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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 115, *Pumps*.

This second edition cancels and replaces the first edition (ISO 20361:2007), which has been technically revised.

Introduction

The noise emitted by a pump unit can be radiated by the casing of the pump, the driving system (e.g. motor, gear box, coupling), the piping system, and all the connected structures.

On site, the perceived noise can be significantly increased by reverberation effects or by the radiation of extraneous sources.

Depending on the type of pump it can be useful to know the following:

a) the noise of the pumping system (including piping);

b) the noise of the pump unit, including the driver and the transmission elements but excluding the noise of the piping system;

c) the noise emitted by the pump alone, excluding the noise from the driver, transmission elements, and the piping;

d) the noise emitted by each of those elements in respect to a given requirement or in view of an efficient sound proofing of the installation.

This International Standard describes methods for the determination of the noise emitted by a pump unit [case b)] or a pump alone [case c)]. Noise emission is expressed in terms of the sound power level of the machine and the emission sound pressure level at the relevant work station (see 6.2).

This International Standard is intended to enable the manufacturer to

— show the effectiveness of noise reduction, and

— declare the noise emission levels.

This International Standard is a type C standard as stated in ISO 12100-1 and ISO 12100-2.

When provisions of this type C standard are different from those which are stated in A or B standards, the provisions of this type C standard take precedence.

The machinery concerned and the extent to which noise is covered are indicated in the scope of this International Standard.

INTERNATIONAL STANDARD **ISO 20361:2015(E)**

Liquid pumps and pump units — Noise test code — Grades 2 and 3 of accuracy

1 Scope

This International Standard specifies all the information necessary to carry out efficiently and under standardized conditions the determination, declaration, and verification of the airborne noise emission of liquid pumps or pump units (see 4.1). It specifies the noise measurement methods and the operating and mounting conditions that shall be used for the test.

Noise emission characteristics include emission sound pressure levels at specified positions and the sound power level. The determination of these quantities is necessary for

— declaring the noise emission values, and

— purpose of noise control at source at the design stage.

The determination of these quantities is also necessary for comparing the noise emitted by liquid pumps on the market.

The use of this International Standard ensures the reproducibility of the determination of the airborne noise-emission characteristics within specified limits determined by the grade of accuracy of the basic airborne noise measurement method used. Noise measurement methods according to this International Standard are engineering methods (grade 2) and survey methods (grade 3).

This International Standard does not deal with the characterization of the structure-borne sound and liquid-borne noise generated by liquid pumps.

NOTE This International Standard is intended to complement EN 809.

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.

ISO 3743-1[1)], *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for small movable sources in reverberant fields — Part 1: Comparison method for a hard-walled test room*

ISO 3743-2, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering methods for small, movable sources in reverberant fields — Part 2: Methods for special reverberation test rooms*

ISO 3744[2)], *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 3746[3)], *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane*

ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment*

1) To be published. (Revision of ISO 3743-1:1994)

2) To be published. (Revision of ISO 3744:1994)

3) To be published. (Revision of ISO 3746:1995)

ISO 9614-1, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points*

ISO 9614-2, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning*

ISO 11203, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions from the sound power level*

ISO 17769 (all parts), *Liquid pumps and installation — General terms — Definitions, quantities, letter symbols and units*

ISO/TR 7849, *Acoustics — Estimation of airborne noise emitted by machinery using vibration measurement*

3 Terms and definitions

For the purposes of this document, the definitions given in ISO 17769 (all parts) and the following apply.

3.1
pump
equipment that is defined as being terminated by its inlet and outlet branches as well as in general its shaft ends

3.2
pump unit
equipment that is comprised of the pump (3.1) and its driver (e.g. electric motor, steam turbine) including transmission elements (e.g. coupling, gear), baseplates, and any auxiliary equipment supplied with the pump