

**Kantavad käeshoitavad ajamiga
tööriistad. Vibratsiooni mõõtmine
käepidemel. Osa 7: Mutrivõtmed,
kruvitsad ja löök-, impulss- või
põrktoimega mutrikeerikud**

Hand-held portable power tools - Measurement of
vibrations at the handle - Part 7: Wrenches,
screwdrivers and nut runners with impact, impulse or
ratchet action

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 8662-7:1999 sisaldab Euroopa standardi EN ISO 8662-7:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 8662-7:1999 consists of the English text of the European standard EN ISO 8662-7:1997.</p> <p>This document is endorsed on 23.11.1999 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>
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<p>Käsitlusala: See standard esitab laborimeetodi vibratsiooni mõõtmiseks mutrivõtmete, kruvitsate ja löök-, impulss-, katke- või pörktoimega mutrikeerikute käepidemel.</p>	<p>Scope:</p>
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Võtmesõnad: ajamiga tööriistad, kruvitsad, käeshoitavad tööriistad, mutrikeerikud, mutrivõtmed, teimid, teisaldatavad seadmed, tööriista käepidemed, tööriistad, vibratsioon, vibratsiooniteimid

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Descriptors: Power tools, wrenches, nut runners, vibration, testing.

English version

Hand-held portable power tools

Measurement of vibrations at the handle

Part 7: Wrenches, screwdrivers and nut runners with impact,
impulse or ratchet action
(ISO 8662-7 : 1997)

Machines à moteur portatives –
Mesurage des vibrations au niveau
des poignées – Partie 7: Clés,
tournevis et serreuses à percussion,
à impulsion ou à cliquet
(ISO 8662-7 : 1997)

Handgehaltene motorbetriebene
Maschinen – Messung mechanischer
Schwingungen am Handgriff – Teil 7:
Schrauber, Schraubendreher und
Mutterndreher mit Schlag-, Impuls-
oder Ratschenantrieb
(ISO 8662-7 : 1997)

This European Standard was approved by CEN on 1997-06-01.

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.

The European Standards exist 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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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 8662-7 : 1997 Hand-held portable power tools – Measurement of vibrations at the handle – Part 7:
Wrenches, screwdrivers and nut runners with impact, impulse or ratchet action,

which was prepared by ISO/TC 118 'Compressors, pneumatic tools and pneumatic machines' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 231 'Mechanical vibration and shock', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by January 1998 at the latest.

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

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

Endorsement notice

The text of the International Standard ISO 8662-7 : 1997 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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Introduction

This part of ISO 8662 specifies how a type test for the measurement of vibrations at the handles of wrenches, screwdrivers and nut runners with impact, impulse or ratchet action shall be performed. It supplements ISO 8662-1, which gives the general specifications for the measurement of vibrations at the handle of portable hand-held power tools. It specifies the operation of the power tool under type test and other requirements for the performance of the type test.

The power tools described in this part of ISO 8662 are used for tightening and untightening threaded fasteners, i.e. nuts and screws. The principle of the operation of these power tools is that the energy from the driving medium causes a rotor to transmit energy incrementally by impact or impulse from a rotary or oscillatory action to the output shaft. The clutch mechanisms and power tool geometry differ among different power tool types, and therefore give different types of force reaction and vibration to the operator's hand.

In impact and ratchet power tools, the clutches are generally all metallic. In impact power tools, the number of impacts on the output shaft per revolution of the motor is typically one or two, whereas in ratchet power tools this number is greater. The clutches of impulse power tools generally contain a fluid which is forced through one or more restrictive passageways each time the motor rotates relative to the output shaft.

The reproducibility determined from a great number of tests in which the power tools were operated in typical work situations was found to be poor, and the possibility of improving it is small. It was therefore concluded that the type test must be carried out using an artificial load, so chosen that the values measured correspond to those found in typical work situations. The reproducibility of the proposed method has been found to be good.

Higher vibration magnitudes can easily occur in real work situations, caused either by misalignment between the power tool and fastener, or by the use of universal joints or angle heads.

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1 Scope

This part of ISO 8662 specifies a laboratory method for measuring vibrations at the handles of wrenches, screwdrivers and nut runners with impact, impulse, rapping or ratchet action. It is a type-test procedure for establishing the vibration value at the handles of the power tools when operating on a specified load.

This part of ISO 8662 mainly covers power tools with 6,3 mm to 40 mm (1/4 in to 1 1/2 in) male or female square-drive output shafts; other drive geometries are also included. One-shot tools and stall-torque-type ratchet wrenches are excluded from this part of ISO 8662.

The power tools covered by this part of ISO 8662 may be pneumatically or hydraulically driven.

It is intended that the results be used to compare different power tools or different models of the same power tool. With the operation specified for the power tools, the values obtained will give an indication of those found in real work situations when the power tool and the head of the fastener are well aligned.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8662. All standards are subject to revision, and parties to agreements based on this part of ISO 8662 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 691:—¹⁾, *Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use.*

ISO 2787:1984, *Rotary and percussive pneumatic tools — Performance tests.*

ISO 8662-1:1988, *Hand-held portable power tools — Measurement of vibrations at the handle — Part 1: General.*

1) To be published. (Revision of ISO 691:1983)