

**Kantavad käeshoitavad ajamiga  
tööriistad. Vibratsiooni mõõtmine  
käepidemel. Osa 9: Rammid**

Hand-held portable power tools - Measurement of  
vibrations at the handle - Part 9: Rammers

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 8662-9:1999 sisaldab Euroopa standardi EN ISO 8662-9:1996 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 8662-9:1999 consists of the English text of the European standard EN ISO 8662-9:1996.</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><b>Käsitlusala:</b> See standard esitab tüüpkatsetustel ja võrdlusotstarbel kasutatava laborimeetodi vibratsiooni mõõtmiseks käeshoitavate ajamiga rammide käepidemetel.</p>	<p><b>Scope:</b></p>
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**ICS** 13.160, 25.140.10

**Võtmesõnad:** ajamiga tööriistad, hüdraulilised seadmed, käeshoitavad tööriistad, laborikatsed, pneumoseadmed, rammid, teimid, teisaldatavad seadmed, tööriista käepidemed, tööriistad, vibratsioon, vibratsiooniteimid

ICS 13.160; 25.140.10

Descriptors: Power tools, vibration, rammers, testing.

**English version**

**Hand-held portable power tools**

Measurement of vibrations at the handle

Part 9: Rammers

(ISO 8662-9:1996)

Machines à moteur portatives – Mesurage  
des vibrations au niveau des poignées –  
Partie 9: Marteaux fouloirs  
(ISO 8662-9:1996)

Handgehaltene motorbetriebene  
Maschinen – Messung mechanischer  
Schwingungen am Handgriff – Teil 9:  
Stampfer (ISO 8662-9:1996)

This European Standard was approved by CEN on 1996-10-11 and is identical to the ISO Standard as referred to.

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 8662-9:1996 Hand-held portable power tools – Measurement of vibrations at the handle – Part 9: Rammers, 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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports essential requirements of the relevant EU Directives.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endoresement, and conflicting national standards withdrawn, by May 1997 at the latest.

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

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

## Endorsement notice

The text of the International Standard ISO 8662-9:1996 was approved by CEN as a European Standard without any modification.

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

## Introduction

This part of ISO 8662 specifies how a type test for the measurement of vibrations, at the handles of rammers shall be performed. It supplements ISO 8662-1, which gives the general specifications for the measurement of vibrations at the handles of handheld power-driven tools. It specifies the operation of the tool under type test and other requirements for the performance of the type test.

Vibration measurements made on rammers operating in typical work situations, e.g. ramming sand, have been found to be relatively reproducible. However, the use of foundry sand as a load for a type test is cumbersome because the sand has to be mixed after each trial. It has therefore been concluded that the type test shall be made on an artificial load (neoprene materials) so designed that acceleration values measured correspond to those found in typical work situations. The reproducibility of the proposed method has been found to be good.

The principle of the operation of a rammer is that the driving medium causes a piston, extended by a rod on the end of which a ramming plate is fixed, to move back and forth. The piston also generates a reaction force on the housing of the machine, which is the cause of vibration.

## 1 Scope

This part of ISO 8662 specifies a laboratory method of measuring the vibrations at the handles of rammers, backfill-rammers, pawing rammers and sand rammers for use in foundries, on building sites, etc. It is a type test procedure for establishing the magnitude of vibrations at the handles of the power tool when operating on the specified load.

It is intended that the results obtained be used to compare different power tools or different models of the same type of power tool. Although the magnitudes measured are obtained in an artificial operation, they will give an indication of the values that would be found in a real work situation.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8662. At the time of publication, the editions indicated were valid. 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 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*.

## 3 Quantities to be measured

Quantities to be measured are:

- a) acceleration according to ISO 8662-1:1988, 3.1, presented as weighted acceleration according to ISO 8662-1:1988, 3.3;

NOTE — Frequency analysis can be omitted if the absence of d.c. shift can be proved by other means.

- b) feed force;
- c) air or hydraulic pressure;
- d) blow frequency.

## 4 Instrumentation

### 4.1 General

For specification of instrumentation see ISO 8662-1:1988, 4.1 to 4.6.

### 4.2 Transducer

For specification of transducer see ISO 8662-1:1988, 4.1.

### 4.3 Mechanical filter

Normally it is necessary to use a mechanical filter for measurements according to this part of ISO 8662 (see ISO 8662-1:1988, 3.2).