

**Mullatöömashinad. Masina juhi kehamõõdud  
ja juhti ümbritseva ruumi vähimad mõõtmed**

Earth-moving machinery - Human physical  
dimensions of operators and minimum operator  
space envelope (ISO 3411:1995)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 3411:1999 sisaldab Euroopa standardi EN ISO 3411:1999 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 3411:1999 consists of the English text of the European standard EN ISO 3411:1999.</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></p> <p>Käesolev standard määratleb mullatöömšina meessoost juhi kehamõõdud ning määrab kindlaks juhikabiinis juhti ümbritseva minimaalse normaalseks tööks vajaliku vaba ruumi mõõtmed (kabiinid, üle katuse rullumise ning ümbermineku suhtes kindlad kaitsekonstruktsioonid), mis on üldiselt kohaldatavad mullatöömšinate suhtes.</p>	<p><b>Scope:</b></p>
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**ICS** 13.180, 53.100

**Võtmesõnad:**

**English version**

**Earth-moving machinery**

Human physical dimensions of operators and  
minimum operator space envelope  
(ISO 3411 : 1995)

Engins de terrassement –  
Dimensions ergonomiques des  
opérateurs et espace enveloppe  
minimal des postes de travail  
(ISO 3411 : 1995)

Erdbaumaschinen – Maschinen-  
führer – Körpermaße – Mindest-  
freiraum (ISO 3411 : 1995)

This European Standard was approved by CEN on 1999-04-16.

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.

CEN members are the national standards bodies of 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.

**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 3411 : 1995 Earth-moving machinery – Human physical dimensions of operators and minimum operator space envelope,

which was prepared by ISO/TC 127 'Earth-moving machinery' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 151 'Construction equipment and building material machines – Safety', 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 November 1999 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of 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 3411 : 1995 was approved by CEN as a European Standard without any modification.

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

## 1 Scope

This International Standard defines the dimensions of male operators of earth-moving machinery and specifies the minimum normal operating space envelope around the operator enclosures (cabs, ROPS, FOPS) generally applicable to earth-moving machinery.

It applies to earth-moving machines as defined in ISO 6165.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 5353:1995, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*.

ISO 6165:1987, *Earth-moving machinery — Basic types — Vocabulary*.

ISO 6682:1986, *Earth-moving machinery — Zones of comfort and reach for controls*.

ISO 6682:1986/Amd.1:1989, Amendment 1.

## 3 Definitions

For the purposes of this International Standard, the following definitions apply (see figure 1).

**3.1 small operator:** Operator where only 5 % of the worldwide earth-moving machinery operator population is smaller than the dimensions given.

**3.2 medium operator:** Operator where 50 % of the worldwide earth-moving machinery operator population is smaller and larger than the dimensions given.

**3.3 large operator:** Operator where only 5 % of the worldwide earth-moving machinery operator population is larger than the dimensions given.

## 4 Physical dimensions of operators

### 4.1 General

The physical dimensions of small, medium and large operators are given in figures 2 and 3 for standing and sitting operators respectively. The body pivot dimensions for small, medium and large operators are given in figure 4.