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**Majapidamis- ja muud taolised
elektriseadmed. Ohutus. Osa 2-70:
Erinõuded lüpsimasinatele**

Household and similar electrical appliances - Safety
- Part 2-70: Particular requirements for milking
machines

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 60335-2-70:2003 sisaldab Euroopa standardi EN 60335-2-70:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 17.07.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 60335-2-70:2003 consists of the English text of the European standard EN 60335-2-70:2002.</p> <p>This document is endorsed on 17.07.2003 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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ICS 65.060.99

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EUROPEAN STANDARD

EN 60335-2-70

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2002

ICS 65.060.99

Supersedes EN 60335-2-70:1996

English version

**Household and similar electrical appliances -
Safety
Part 2-70: Particular requirements for milking machines
(IEC 60335-2-70:2002)**

Appareils électrodomestiques et
analogues - Sécurité
Partie 2-70: Règles particulières
pour les machines à traire
(CEI 60335-2-70:2002)

Sicherheit elektrischer Geräte für den
Hausgebrauch und ähnliche Zwecke
Teil 2-70: Besondere Anforderungen
für Melkmaschinen
(IEC 60335-2-70:2002)

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 61H/164/FDIS, future second edition of IEC 60335-2-70, prepared by SC 61H of the IEC Technical Committee 61, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60335-2-70 on 2002-09-24.

This European Standard replaces EN 60335-2-70:1996.

The following dates are applicable:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-07-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 2005-10-01

This part 2 has to be used in conjunction with EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements. It was established on the basis of the 2002 edition of that standard. Amendments and revisions of Part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of Part 1.

This part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for electric milking machines.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE 1 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letter Z.

NOTE 2 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and the associated noun are also in bold.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

Annex AA is for information only.

p NOTE In this document, p is used in the margin to indicate instructions for preparing the printed version.

Introduction

p Add:

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 73/23/EEC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 98/37/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

Endorsement notice

The text of the International Standard IEC 60335-2-70:2002 was approved by CENELEC as a European Standard without any modification.

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INTERNATIONAL
STANDARD

IEC
60335-2-70

Second edition
2002-03

**Household and similar electrical appliances –
Safety –**

**Part 2-70:
Particular requirements for milking machines**

*Appareils électrodomestiques et analogues –
Sécurité –*

*Partie 2-70:
Règles particulières pour les machines à traire*



Reference number
IEC 60335-2-70:2002(E)

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As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

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The IEC is now publishing consolidated versions of its publications. For example, edition numbers 1.0, 1.1 and 1.2 refer, respectively, to the base publication, the base publication incorporating amendment 1 and the base publication incorporating amendments 1 and 2.

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INTERNATIONAL STANDARD

IEC
60335-2-70

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Международная Электротехническая Комиссия

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Definitions.....	7
4 General requirement.....	8
5 General conditions for the tests	8
6 Classification.....	8
7 Marking and instructions.....	9
8 Protection against access to live parts.....	10
9 Starting of motor-operated appliances	10
10 Power input and current.....	10
11 Heating.....	10
12 Void	10
13 Leakage current and electric strength at operating temperature.....	10
14 Transient overvoltages	10
15 Moisture resistance	10
16 Leakage current and electric strength.....	11
17 Overload protection of transformers and associated circuits	11
18 Endurance.....	11
19 Abnormal operation	11
20 Stability and mechanical hazards.....	11
21 Mechanical strength	11
22 Construction.....	12
23 Internal wiring.....	12
24 Components	12
25 Supply connection and external flexible cords	12
26 Terminals for external conductors.....	12
27 Provision for earthing	12
28 Screws and connections.....	13
29 Clearances, creepage distances and solid insulation	13
30 Resistance to heat and fire.....	13
31 Resistance to rusting.....	13
32 Radiation, toxicity and similar hazards.....	13
 Annexes	 14
Annex AA (informative) Examples of milking machines	14
 Bibliography.....	 18

Figure AA.1 – Example of a bucket or direct-to-can milking machine..... 14
Figure AA.2 – Example of a pipeline milking machine 15
Figure AA.3 – Example of a recorder milking machine 16
Figure AA.4 – Example of an independent air and milk transport milking machine..... 17

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –**

Part 2-70: Particular requirements for milking machines

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

This part of International Standard IEC 60335 has been prepared by sub-committee 61H: Safety of electrically-operated farm appliances, of IEC technical committee 61: Safety of household and similar electrical appliances.

This second edition cancels and replaces the first edition published in 1993. It constitutes a technical revision.

The text of this part of IEC 60335 is based on the following documents:

FDIS	Report on voting
61H/164/FDIS	61H/169/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above Table.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for milking machines.

When a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
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NOTE 3 The following print types are used:

- requirements: in roman type
- *test specifications*: in italic type
- notes: in small roman type.

Words in **bold** in the text are defined in Clause 3. When a definition concerns an adjective, the adjective and associated noun are also in bold.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

The following differences exist in the countries indicated below:

- 25.7: Ordinary PVC sheathed supply cords are permitted (Australia, New Zealand).

INTRODUCTION

It has been assumed in the drafting of this International Standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice.

This standard takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

An appliance that complies with the text of this standard will not necessarily be considered to comply with the safety principles of the standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-70: Particular requirements for milking machines

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of **milking machines**, to be used in stalls and in the open, that are designed for milking farm animals, such as cows, the **rated voltage** of the **milking machine** being not more than 250 V for single-phase operation and 480 V for other operations.

NOTE 101 Examples of such machines are:

- bucket **milking machines**;
- direct-to-can **milking machines**;
- milking **pipeline machines**;
- recorder **milking machines**;
- independent air and milk transport **milking machines**.

NOTE 102 A detailed description of the types of **milking machines** covered by this standard is given in ISO 3918 and is indicated in Annex AA.

NOTE 103 The upper limit for the **rated voltage** of 250 V single-phase may be exceeded in cases where 480 V split-phase motors are required.

NOTE 104 This standard applies to milking **sub-assemblies** supplied by one manufacturer to form a complete **milking machine**. It can be used as guidance for the safety of **milking machines** formed from **sub-assemblies** supplied by different manufacturers.

NOTE 105 Attention is drawn to the fact that:

- for **milking machines** intended to be used in vehicles or on board ships, additional requirements may be necessary;
- in many countries, additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

2 Normative references

This clause of Part 1 is applicable.

3 Definitions

This clause of Part 1 is applicable except as follows.

3.1.9 Replacement:

normal operation

- **vacuum pumps** and those of a **pulsation system** are operated at **rated vacuum** during continuous operation;
- reloader milk pumps are operated with the vacuum system being operated at **rated vacuum** of the **vacuum pump**;
- during milking the **vacuum pump**, the **pulsation system** and the **reloader milk pump** are operated continuously according to the manufacturer's instructions,
- during cleaning the **vacuum pump**, the **pulsation system** and the **reloader milk pump** and cleaning system are operated continuously according to the manufacturer's instructions