

Toidutöötlemismasinad. Planetaarsegistid . Ohutus- ja hügieeninõuded

Food processing machinery - Planetary mixers - Safety and hygiene requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 454:2000+A1:2010 sisaldab Euroopa standardi EN 454:2000+A1:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 23.12.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 454:2000+A1:2010 consists of the English text of the European standard EN 454:2000+A1:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 23.12.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Food processing machinery - Planetary mixers - Safety and hygiene requirements

Machines pour les produits alimentaires - Batteurs-mélangeurs - Prescriptions relatives à la sécurité et l'hygiène

Nahrungsmittelmaschinen - Planetenrühr- und -knetmaschinen - Sicherheits- und Hygieneanforderungen

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Foreword

This document (EN 454:2000+A1:2009) has been prepared by Technical Committee CEN/TC 153 "Machinery intended for use with foodstuffs and feed", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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 includes Amendment 1 approved by CEN on 24 October 2009.

This document supersedes EN 454:2000.

The start and finish of text introduced or altered by amendment is indicated in the text by tags \square_{A1} \square_{A1} .

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 EU Directive(s).

\square_{A1} For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. \square_{A1}

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Introduction

The extent to which hazards are covered is indicated in the scope of this standard. In addition, machinery shall comply as appropriate with EN 292 for hazards which are not covered by this standard.

1 Scope

This standard specifies safety and hygiene requirements for the design and manufacture of fixed bowl planetary mixers of capacity greater than or equal to 5 l¹⁾ and less than 500 l used to process various ingredients e.g. cocoa, flour, sugar, oils and fat, minced meat, eggs, and other ingredients, in the food industry and shops.

These machines are sometimes used in other industries (e.g. pharmaceutical industry, chemical industry, printing, etc.), but hazards related to these uses are not considered in this standard.

The following machines are excluded:

- accessory planetary mixers;
- continuously fed machines;
- dough mixers²⁾;
- experimental and testing machines under development by the manufacturers;
- domestic appliances.

The intended use of the machine, as defined in 3.12 of EN 292-1:1991 and in the manufacturer's instruction handbook, is loading various ingredients, processing them in a stationary bowl by means of appropriate beaters, unloading and cleaning.

Processing is carried out in cycles of variable duration.

It can be either manually or automatically-controlled, in individual cycles or on a cycle repeat basis, etc.

Manual operations are sometimes necessary to add ingredients without stopping the beater.

On machines fitted with a bowl lifting and lowering device or with a device for moving the bowl/head/beater vertically the working position is that when the beater is nearest to the bottom of the bowl.

The significant hazards covered by this standard are mechanical (shearing, trapping, loss of stability), electrical, thermal, ergonomic and also hazards resulting from gas accumulation, noise, inhalation of dust, and lack of hygiene.

A1 *deleted text* **A1**

The standard applies only to machines manufactured after the date of its issue.

1) Note: Below 5 l, EN 60335-1 and EN 60335-2 are applicable.

2) EN 453.

2 Normative references

This European standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-1:1991, Safety of machinery - Basic concepts - General principles for design - Part 1: Basic terminology, methodology

EN 292-2:1991+A1:1995, Safety of machinery - Basic concepts - General principles for design - Part 2: Technical principles and specifications

EN 298:1993, Automatic gas burner control systems for gas burners and gas burning appliances with or without fans

EN 563:1994, Safety of machinery - Temperatures of touchable surfaces - Ergonomics data to establish temperature limit values for hot surfaces

EN 614-1:1995, Safety of machinery - Ergonomic design principles - Part 1: Terminology and general principles

EN 954-1:1996, Safety of machinery - Safety related parts of control systems - Part 1: General principles for design

EN 1050:1996, Safety of machinery - Principles for risk assessment

EN 1088:1995, Safety of machinery - Interlocking devices associated with guards - Principles for design and selection

EN 1672-2:1997, Food processing machinery - Common requirements - Part 2: Hygiene requirements

EN 60204-1:1997, Safety of machinery - Electrical equipment of machines - Part 1: General requirements

EN 60529:1991, Degrees of protection provided by enclosures

EN 60651:1994, Sound level meters

EN ISO 3743-1:1995, Acoustics - Determination of sound levels of noise sources - Engineering methods for small, movable sources in reverberant fields - Part 1: Comparison method for hard-walled test rooms

EN ISO 3744:1995, Acoustics - Determination of sound power levels of noise sources using sound pressure - Engineering method in an essentially free field over a reflecting plane

EN ISO 4871:1996, Acoustics - Declaration and verification of noise emission values of machinery and equipment

EN ISO 11201:1995, Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at the work station and at other specified positions - Engineering method in an essentially free field over a reflecting plane

EN ISO 11688-1:1998, Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning

EN ISO 12001:1996, Acoustics - Noise emitted by machinery and equipment - Rules for the drafting and presentation of a noise test code

ISO 468:1982, Surface roughness - Parameters values and general rules for specifying requirements

3 Description

A planetary mixer (see figure 1) usually consists of a frame supporting:

- a) a casing containing the beater(s) drive mechanism;
- b) control devices;
- c) a bowl, in which ingredients are processed;
- d) interchangeable beaters designed to process ingredients and which move around a fixed or mobile axis (planetary motion). Their rotation speed may be either constant or variable;
- e) a power connection for attachments such as meat mincers, vegetable slicers, etc.;
- f) a device for vertically moving the bowl or the head of the mixer to allow beater removal;
- g) a device for handling the bowl, for example a trolley.

The following features may also be included:

- bowl heating;
- bowl cooling;
- bowl gravity discharge.