

TOIDUTÖÖTLEMISMASINAD. AUTOMAATSED
TAIGNAJAGAMISSEADMED. OHUTUS- JA
HÜGIEENINÕUDED

Food processing machinery - Automatic dough dividers
- Safety and hygiene requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12042:2014+A1:2020 sisaldab Euroopa standardi EN 12042:2014+A1:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 12042:2014+A1:2020 consists of the English text of the European standard EN 12042:2014+A1:2020.
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English Version

Food processing machinery - Automatic dough dividers - Safety and hygiene requirements

Machines pour les produits alimentaires - Diviseuses
automatiques - Prescriptions relatives à la sécurité et à
l'hygiène

Nahrungsmittelmaschinen - Teigteilmaschinen -
Sicherheits- und Hygieneanforderungen

This European Standard was approved by CEN on 27 December 2013 and includes Amendment approved by CEN on 15 June 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Page

European foreword.....	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms, definition and description	8
3.1 Terms and definitions	8
3.2 Description	8
4 List of significant hazards	10
5 Safety and hygiene requirements and/or protective measures.....	11
5.1 General.....	11
5.2 Mechanical hazards.....	12
5.3 Electrical hazards.....	21
5.4 Emergency stop.....	22
5.5 Unexpected start-up.....	22
5.6 Noise reduction.....	22
5.7 Protection against flour dust emission	22
5.8 Hygiene requirements.....	22
5.9 Ergonomic principles.....	24
5.10 Protection against spilling oil.....	24
5.11 Pneumatic and hydraulic equipment.....	24
6 Verification of safety and hygiene requirements and/or protective measures.....	24
7 Information for use	26
7.1 Signals and warning.....	26
7.2 Instruction handbook.....	26
7.3 Marking.....	28
Annex A (normative) Noise test code for automatic dividers – Grade 2 of accuracy.....	29
A.1 Installation and mounting conditions	29
A.2 Operating conditions	29
A.3 Measurements.....	29
A.4 Emission sound pressure level determination	29
A.5 Sound power level determination	29
A.6 Measurement uncertainties	30
A.7 Information to be recorded.....	30
A.8 Information to be reported	30
A.9 Declaration and verification of noise emission values.....	31
Annex B (normative) Principles of design to ensure the cleanability of automatic dividers.....	32
B.1 Terms and definitions	32
B.2 Materials of construction	32

B.3	Design	34
Annex ZA	(informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered.....	49
Bibliography		52

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European foreword

This document (EN 12042:2014+A1:2020) 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 March 2021, and conflicting national standards shall be withdrawn at the latest by March 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document includes Amendment 1 approved by CEN on 15 June 2020.

This document supersedes A1 EN 12042:2014 A1.

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

This document 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 2006/42/EC.

For relationship with EU Directive 2006/42/EC, see informative Annex ZA, which is an integral part of this document.

Significant changes

The significant changes with respect to the previous edition EN 12042:2005+A1:2010 are listed below:

- Normative references updated;
- Clause 4: new presentation in a table;
- 5.2.2, zone 1:
 - A1 the requirements don't distinguish between fed by hand or mechanically A1;
 - addition of new requirements for pressure sensitive edge (see A1 5.2.2.1.2 A1), AOPD (see A1 5.2.2.1.3 A1), cleaning of the hopper (see A1 5.2.2.1.6 A1) and feeding assistance device inside the hopper (see A1 5.2.2.1.7 A1);
 - new stopping time $\leq 0,35$ s;
 - new performance level *d*.
- 5.2.3, zone 2: Table 1 (Dimensions of the guard or tunnel) replaced by a reference to EN ISO 13857;
- Instruction handbook updated (environmental information).

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those that are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

1.1 A1 This European Standard applies to the design and manufacture of standalone automatic dough dividers having a feed hopper, and which can be used separately or in a line in the food industry, *artisan bakeries* and shops (pastry making, bakeries, confectionery, etc.) for dividing and additionally for moulding/rounding dough or pastry into adjustable portions to produce the required weight of dough piece during a dividing process. These machines can be fed by hand or mechanically.

This European Standard deals with all significant hazards, hazardous situations and events relevant to the transport, installation, adjustment, operation, cleaning, maintenance, dismantling, disassembling and scrapping of automatic dough dividers, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

These machines are not intended to be cleaned with pressurized water. A1

1.2 This European Standard is not applicable to the following:

- experimental and testing machines, under development by the manufacturer;
- weighing devices;
- pressure dough dividers, without a feed hopper, using knives for the dividing process;
- lines with separate cutting or forming elements outside the housing;
- lifting and tilting machines¹⁾ or other separate feeding machines;
- additional hazards generated when the machine is used in a line or mechanically fed.

1.3 A noise test code is included in Annex A to assist manufacturers to measure noise levels for the purpose of the noise emission declaration.

1.4 This European Standard is not applicable to machines which are manufactured before its publication as EN.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 619:2002+A1:2010, *Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads*

EN 894-4:2010, *Safety of machinery - Ergonomics requirements for the design of displays and control actuators - Part 4: Location and arrangement of displays and control actuators*

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EN ISO 14120:2015, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)*

¹⁾ See EN 13288.

EN ISO 14118:2018, *Safety of machinery — Prevention of unexpected start-up (ISO 14118:2017)*

EN ISO 14119:2013, *Safety of machinery — Interlocking devices associated with guards - Principles for design and selection (ISO 14119:2013)*

Ⓐ₁

EN 1672-2:2005+A1:2009, *Food processing machinery - Basic concepts - Part 2: Hygiene requirements*

EN 60204-1:2006, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2005)*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529)*

Ⓐ₁ EN ISO 7010:2012, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010:2011)* Ⓐ₁

EN ISO 3743-1:2010, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for small movable sources in reverberant fields - Part 1: Comparison method for a hard-walled test room (ISO 3743-1:2010)*

EN ISO 3744:2010, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 4413, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413)*

EN ISO 4414, *Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414)*

EN ISO 4871:2009, *Acoustics - Declaration and verification of noise emission values of machinery and equipment (ISO 4871)*

EN ISO 11201:2010, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

Ⓐ₁ EN ISO 13849-1:2015, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)* Ⓐ₁

EN ISO 13855:2010, *Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body (ISO 13855:2010)*

EN ISO 13856-1, *Safety of machinery - Pressure-sensitive protective devices - Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors (ISO 13856-1)*

EN ISO 13856-2, *Safety of machinery - Pressure-sensitive protective devices - Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars (ISO 13856-2)*

EN ISO 14122-2:2016, *Safety of machinery - Permanent means of access to machinery - Part 2: Working platforms and walkways (ISO 14122-2:2016)*

3 Terms, definition and description

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1.1

stopping time (time for hazard elimination)

period between the point at which the interlocking device initiates the stop command and the point at which the risk from hazardous machine functions has passed

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3.2 Description

The dividers in the scope consist of the elements listed below (including optional equipment) (see Figure 1):

- 1) loading hopper;
- 2) feeding assistance device inside the hopper (optional, see one example at Figure 2);
- 3) dividing device which can be of one of the following types:
 - rotating drum with chamber and piston;
 - piston with or without cutting slide;
 - rotating blades or cutting devices (e.g. knives, star rollers);
 - and the operating mechanisms;
- 4) flour duster at the delivery of pieces of dough (optional);
- 5) one or more conveyor belts designed to discharge pieces of dough;
- 6) one or more drive units to operate the dividing device and the discharge devices;
- 7) miscellaneous devices, e.g. to set the volume of the portions;
- 8) control panel;
- 9) oiling device (optional, not included in Figure 1);
- 10) moulding/rounding device (optional, not included in Figure 1).