



SLOVENSKI STANDARD
SIST EN 13870:2005+A1:2010
01-oktober-2010

Stroji za predelavo hrane - Stroji za razrezovanje/razkosavanje na zrezke/zarebrnice - Varnostne in higienske zahteve (vključno z dopnilom A1)

Food processing machinery - Chop cutting machines - Safety and hygiene requirements

Nahrungsmittelmaschinen - Kotelettschneidemaschinen - Sicherheits- und Hygieneanforderungen

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Machines pour les produits alimentaires - Machines à couper les côtelettes - Prescriptions relatives à la sécurité et à l'hygiène

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ICS:

67.260

Tovarne in oprema za
živilsko industrijo

Plants and equipment for the
food industry

SIST EN 13870:2005+A1:2010

en,fr,de

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EUROPEAN STANDARD
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Food processing machinery - Chop cutting machines - Safety and hygiene requirements

Machines pour les produits alimentaires - Machines à couper les côtelettes - Prescriptions relatives à la sécurité et à l'hygiène

Nahrungsmittelmaschinen - Kotelettschneidemaschinen - Sicherheits- und Hygieneanforderungen

This European Standard was approved by CEN on 14 October 2004 and includes Amendment 1 approved by CEN on 20 May 2010.

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


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Foreword

This document (EN 13870:2005+A1:2010) has been prepared by Technical Committee CEN/TC 153 “Food processing machinery — Safety and hygiene requirements”, 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.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 2010-05-20.

This document supersedes EN 13870:2005.

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

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100-1.

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 which 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.

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1 Scope

This document covers chop cutting machines and accessories.

The extent, to which hazards are covered, is indicated in this document.

1.1 This document specifies requirements for design and manufacture of chop cutting machines.

The machines covered by this document are used for continuous portioning of fresh, smoked or frozen meat with and without bones or of similar products by separation by means of a blade.

This document deals with all significant hazards, hazardous situations and events relevant to machines, appliances and machinery, when they are used \square_{A1} as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4) \square_{A1} .

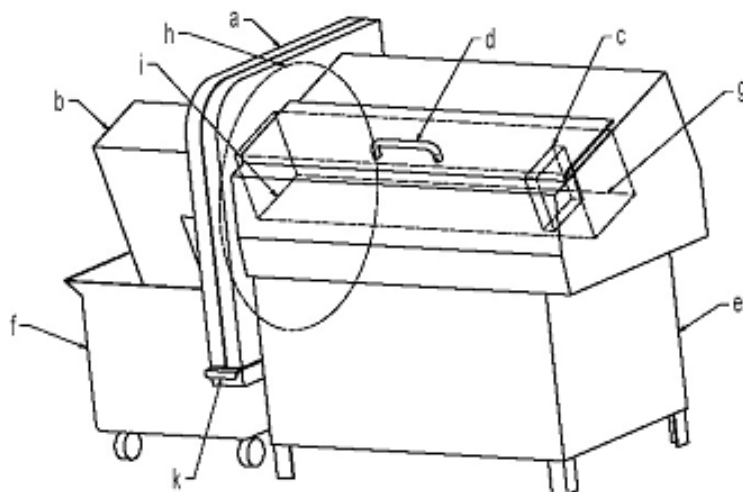
This document deals with the hazards which can arise during commissioning, operation, maintenance and de-commissioning of the machine.

The document is not dealing with the specific hazards of loading devices.

This document is not applicable to chop cutting machines which are manufactured before the date of publication of this document by CEN.

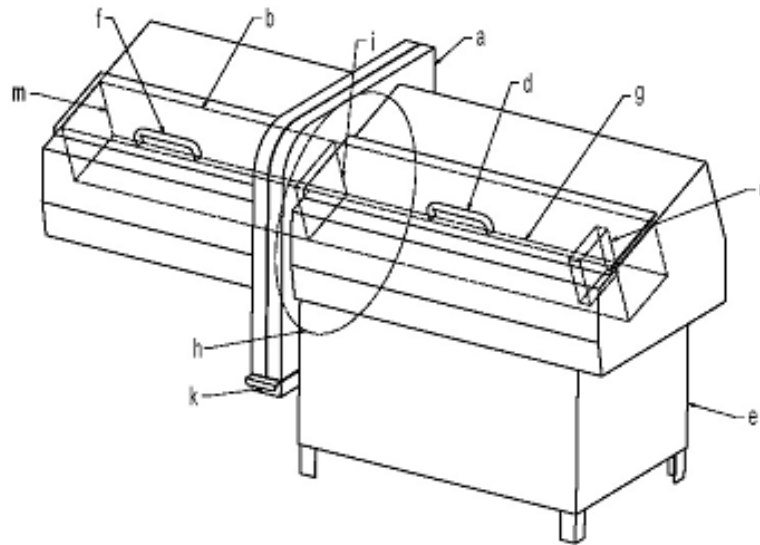
1.2 This document covers the following types of machines:

- chop cutting machines with a discharge chute (Figure 1);
- chop cutting machines with a discharge trough (Figure 2).

**Key**

- | | | | |
|---|---------------------------------------|---|--|
| a | Blade housing/cutting chamber | f | Conveyor bin, container for completing the enclosing guard |
| b | Discharge chute | g | Feed trough/cutting trough |
| c | Material holder/forward feed device | h | Active range of the blade |
| d | Cover over feed trough/cutting trough | i | Cutting zone |
| e | Frame/housing | k | Collector bin |

Figure 1 — Chop cutting machine with discharge chute

**Key**

a	Blade housing/cutting chamber	f	Cover over discharge trough
b	Discharge trough	g	Feed trough
c	Material holder/forward feed device	h	Active range of blade
d	Cover over feed trough/material trough	i	Cutting zone
e	Frame/housing	k	Collector bin
		m	Outfeed

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Figure 2 — Chop cutting machine with discharge trough

1.3 Machine construction

Chop cutting machines are constructed of a machine frame, a feed trough with an automatic forward feed device, a blade housing, a blade, a removal unit, associated drives, electrical, hydraulic and pneumatic components, depending on machine type.

Chop cutting machines in the scope of this document may be equipped with:

- a feed conveyor belt in longitudinal- and lateral axis;
- a removal conveyor belt;
- a transfer trolley for the blade.

1.4 Intended use

The intended use (as defined in EN 12100-1:2003, 3.22) of chop cutting machines as dealt with in this document is described in 1.1.

The material to be cut is fed either manually or by means of a loading device into the feed trough. The material to be cut is fed to the blade by means of the automatic forward feed device. The product falls via the discharge chute into a trolley or into a discharge trough which may be equipped with a removal conveyor belt.


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Although it should be advised against, the standard, taking into account practice, deals with the hazards due to cleaning with pressurised water.

2 Normative references

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

- EN 614-1, *Safety of machinery — Ergonomic principles for design — Part 1: Terms and general principles*
- EN 953:1997, *Safety of machinery — Guards — General requirements for design and construction of fixed and movable guards*
- EN 982, *Safety of machinery — Safety requirements for fluid power systems and components — Hydraulics*
- EN 983, *Safety of machinery — Safety requirements for fluid power systems and components — Pneumatics*
- EN 1005-1, *Safety of machinery — Human physical performance — Part 1: Terms and definitions*
- EN 1005-2, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*
- EN 1005-3, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machine operation*
- EN 1088:1995, *Safety of machinery — Interlocking devices associated with guards — General principles for design and selection*
- EN 1672-2:2005, *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, modified)*
- EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*
- 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 (ISO 3744:1994)*
- EN ISO 4871, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*
- EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995)*
- EN ISO 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*
- EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*
- EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*
- EN ISO 13849-1, *Safety of machinery — Safety related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs (ISO 13857:2008)* 

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and given in the documents which are listed in Clause 2 and the following apply.

3.1

removal conveyor belt

transport belt for removing the product

3.2

discharge trough

trough for discharging the product

3.3

discharge chute

slanted plane for removing the product

3.4

discharge protection

guard at the discharge side

3.5

feed trough/cutting trough

trough for feeding the material to be cut (before cutting)

3.6

wheeled container

wheel-mounted unit for carrying products

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3.7

frame/housing

basic construction for carrying machine components

3.8

blade housing

part of the housing for accommodation of the sickle blade

3.9

door of the blade housing

movable device with safety function at the blade housing

3.10

product

processed material

3.11

material to be cut

material to be processed before cutting

3.12

cutting zone

zone for cutting the product