SLOVENSKI STANDARD
SIST EN 12853:2002+A1:2010

01-junij-2010

Nadomešča:
SIST EN 12853:2002

Stroji za predelavo hrane - Ročni mešalniki in stepalniki - Varnostne in higienske zahteve (vključno z dopolnilom A1)

Food processing machinery - Hand-held blenders and whisks - Safety and hygiene requirements

Nahrungsmittelmaschinen - Handmixer und Handrührer - Sicherheits- und Hygieneanforderungen

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

Ta slovenski standard je istoveten z: **EN 12853:2001+A1:2010**

ICS:

67.260	Tovarne in oprema za živilsko industrijo	Plants and equipment for the food industry

SIST EN 12853:2002+A1:2010 **en,fr**

EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 12853:2001+A1

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ICS 67.260

Supersedes EN 12853:2001

English Version

Food processing machinery - Hand-held blenders and whisks - Safety and hygiene requirements

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

Nahrungsmittelmaschinen - Handmixer und Handrührer - Sicherheits- und Hygieneanforderungen

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN 12853:2001+A1:2010: E

Contents

Foreword

[A1] This document (EN 12853:2001+A1:2010) 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. [A1]

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of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

This document includes Amendment 1, approved by CEN on 2010-03-25.

This document supersedes EN 12853:2001.

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

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.

It is one of a series of standards on the design and construction of machines used in catering:

— vegetable cutting machines;

— catering attachments for machines having an auxiliary drive hub;

— food processors and blenders;

— hand-held blenders and whisks;

— beam mixers;

— salad dryers;

— vegetable peelers;

— cooking kettles equipped with stirrer and/or mixer.

[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. [A1]

[A1] *deleted text* [A1]

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

The use of hand-held blenders and whisks generates various mechanical or other hazards.

[A1] Their extensive use justifies the need for a standard covering both safety and the hazards to food hygiene. [A1]

[A1] *deleted text* [A1]

[A1] This European Standard is a type C standard as stated in EN ISO 12100. [A1]

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

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 o the provisions of this type C standard.

1 Scope

1.1 This European Standard specifies the safety and hygiene requirements for the design and manufacture of hand-held blenders and whisks used in the commercial and institutional catering, and in food shops.

The term "hand-held blenders" is used to refer to the equipment covered by this standard.

The machines covered by this standard are hand-held appliances whose tool is intended to process a foodstuff in a container. Tools are designed to crush, mix, mash, emulsify, etc. foodstuffs such as vegetables into soups, mashes, purees, sauces, mayonnaise, cream, dairy products and more generally to process all solid, liquid, pasty or powdery foodstuffs to obtain a homogeneous fluid.

These appliances are designed to process up to 100 l of food in one operation.

This standard applies to the following machines, according to their weight and to the operating modes required by their intended use:

— manually operated machines, using one or both hands, actuated throughout the whole operation (see figure 1);

— machines operating resting on the bottom of the container (see figure 2);

— machines fixed to or placed on a special support which can be fitted to the container (see figure 3). The support acts as a substitute for the operator for operations that take a long time or for food processing which may present risks of burns (steam or splashes).

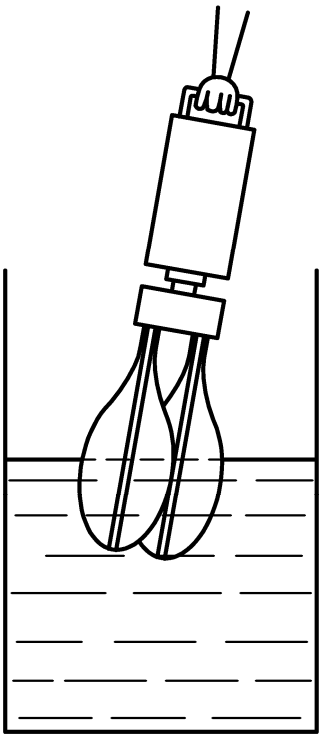


Figure 1 — Manually operated machine

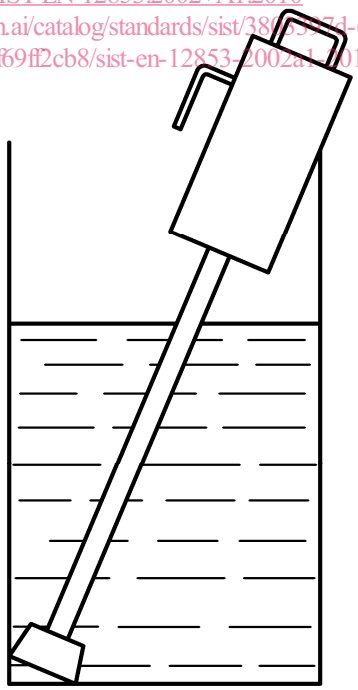


Figure 2 — Free-standing machine

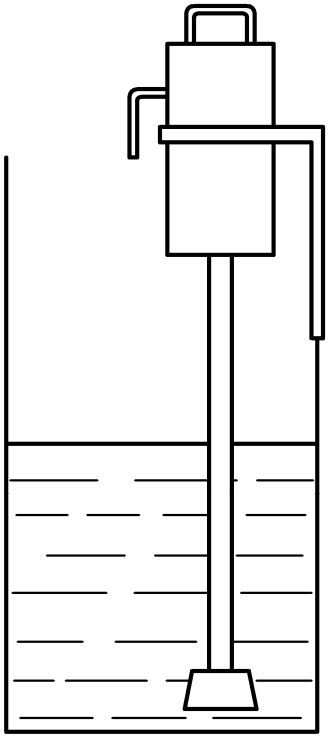


Figure 3 — Fixed machine

〚A1〛 *deleted text* 〚A1〛

1.2 This standard does not apply to:

— domestic machines;

— vertical crushers, sieves mounted on trolleys and beam mixers (beam mixers are covered by [A1] EN 12854:2003 [A1]).

1.3 [A1] This European Standard specifies all significant hazards, hazardous situations and events relevant to hand-held blenders and whisks, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This European Standard deals with the hazards which can arise during commissioning, operation, cleaning, removal of food blockages, feeding, changing the tools, maintenance and decommissioning of the machine. [A1]

1.4 [A1] Noise is not considered to be a significant hazard for hand-held blenders and whisks. This does not mean that the manufacturer of these machines is absolved from reducing noise and making a noise declaration. Therefore, the information to be provided and a noise test code are given in this European Standard. [A1]

1.5 [A1] This European Standard is not applicable to hand-held blenders and whisks which are manufactured before the date of its publication as EN. [A1]

2 [A1] 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 614-1:2006, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 953, *Safety of machinery — General requirements for the design and construction of fixed and movable guards*

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 60204:2005, modified)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP code)*

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 4287:1998, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287:1997)*

EN ISO 4871:1996, *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 the work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane* (*ISO 11201:1995)*

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 and specifications (ISO 12100-2:2003)*

EN ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)*

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 upper and lower limbs (ISO 13857:2008)* A1

3 Terms and definitions – Description

3.1 Terms and definitions

A1 For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and the following apply. A1

3.1.1
blender
machine for crushing and pulverizing, equipped with a cutting tool composed of highspeed rotating blades which may be sharp and/or perforated.

The rotating tool is located at the end of a shaft immersed in the processed food for progressively blending the food bulk

3.1.2
whisk
machine for beating and emulsifying, equipped with tool composed of flexible and long wires gathered together around one or several rotating shaft(s). The tool operates with a large part of its length immersed in the processed food

3.2 Description

Depending on the type of processing, the usual length of the operation may vary from a few seconds to more than ten minutes. Operation is designed to be discontinuous.

The rated power of hand-held blenders is usually less than 500 W.

The weight of these appliances is usually less than 10 kg.

Hand-held blenders usually consist of (see figure 4):

a) a body (1) which contains or supports:

- a motor and its transmission (2);
- one or several control devices, e.g.: on/off control, variable speed drive, selector (3);
- one or several handles (4);
- one or several food processing tools/attachments which can be either fixed or removable (5).

b) where applicable, a support which can be fitted to a range of containers (6).

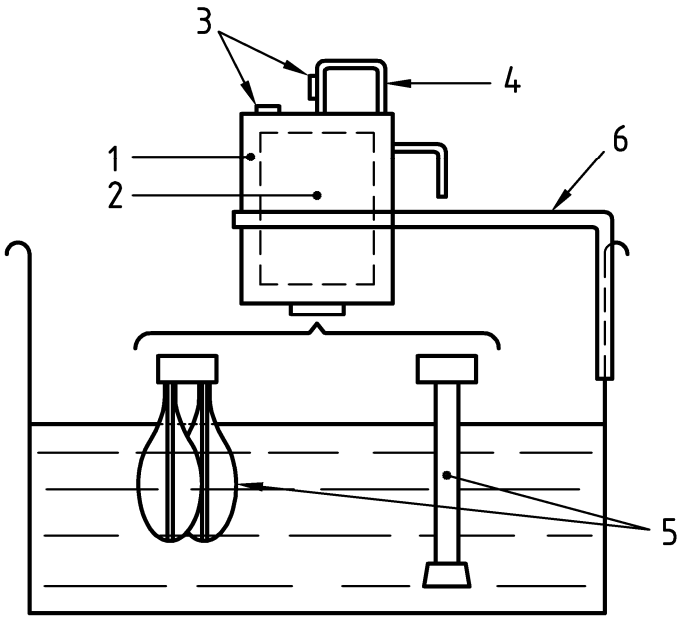


Figure 4 — Description of a hand-held blender

4 [A1] List of significant hazards

4.1 Mechanical hazards

4.1 General

This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this European Standard, identified by risk assessment as significant for this type of machinery, and which require action to eliminate or reduce the risk. [A1]

4.2 Electrical hazards

Electrical shocks hazards may arise due to the ingress of moisture and liquids into the appliance caused by:

— the appliance falling into liquid; or

— liquids being splashed or hosed onto the appliance; or

— the appliance being used in a high humidity environment such as a steam-filled kitchen; or

— the appliance being handled by a person with wet hands.

4.3 Thermal hazards

Thermal hazards of burning hands and arms may arise from:

— contact with splashed processed hot food, steam or thermal radiations;

— contact with the hot handgrip.

4.4 Hazards generated by neglecting hygiene principles in machine design

4.4.1 Hazards to the operator

Hazards from the food being processed, e.g. inhalation of flour, sugar, … and from the cleaning agents used to disinfect the machine.

NOTE See also [A1] prCEN/TR 1672-1:- [A1] which deals with the hygiene risk to the operator.

4.4.2 Hazards to the consumer

Inability to clean food and splash areas effectively and thoroughly.

Contamination of the food by undesirable materials including residues of food, microbiological organisms as well as residues of cleaning and disinfecting fluids.

4.5 Hazards generated by neglecting ergonomic principles in machine design

Neglecting ergonomic principles can cause incorrect operation of controls and damage due to over-reaching, heavy loads, awkward posture.

Poor design of grips and manual control.

5 [A1] Safety and hygiene requirements and/or protective measures

5.1 General

Machinery shall comply with the safety requirements and/or protective measures of this clause.

In addition, the machine shall be designed according to the principles of EN ISO 12100-2 for relevant but not significant hazards, which are not dealt with by this European Standard.

For hazards which are to be reduced by the application of the type B-standards such as EN 614-1, EN 953, EN 60204-1, EN 60529, EN ISO 12100, EN ISO 13849-1 and EN ISO 13857, the manufacturer shall carry out a risk assessment to establish the requirements of the type B-standard. This specific risk assessment shall be part of the general risk assessment of the machine.

When fixed guards, or parts of the machine acting as such, are not permanently fixed e.g. by welding, their fixing systems shall remain attached to the guards or to the machine when the guards are removed. [A1]

5.2 Mechanical hazards

5.2.1 Unintended starting

Due to the weight of the appliance and the need to operate it manually, in most cases with both hands, and for up to ten minutes, the resulting physical fatigue that would affect the operator precludes the systematic use of hold-to-run controls.

The switch shall be so designed and located that any unintended actuation of it is prevented during foreseeable handling of the machine (operational use, cleaning, storage, etc.).

5.2.2 Bursting of tool

Rotary food processing attachments and tools shall be designed and dimensioned to avoid the hazard of bursting during rotation under the effect of kinetic energy.

5.2.3 Disconnection of parts

All machine parts shall be designed and manufactured to prevent them from being unintentionally separated from the machine body during operation.

5.2.4 Moving parts: tools and transmission

5.2.4.1 Tools for food processing

5.2.4.1.1 Blender

For functional reasons the openings in the housing of the blade cannot comply with A1 EN ISO 13857:2008 A1 and may allow a cutting injury. There shall be at least a fixed guard on the drive side overlapping the cutting blades by a minimum of 10 mm in the radial and 5 mm in the axial dimensions (see figure 5).

The grip zone and the grips shall be designed and constructed in such a way that the operator's hands are kept away from the danger zone formed by the tool movement. The distance between these two zones shall be greater than or at least equal to 300 mm (see figure 6).

5.2.4.1.2 Whisk

For functional reasons the whisk area cannot be guarded to comply with A1 EN ISO 13857:2008 A1 and may allow crushing injury.

A guard shall be provided to avoid accidental slipping of the hand into the tool. Its dimensions shall be at least 30 mm greater than the dimensions of the handgrip zone in all directions, and it shall be located between the handgrip zone and the tool (see figure 7).

The risk of injury shall be brought to the attention of the user in the instruction manual.

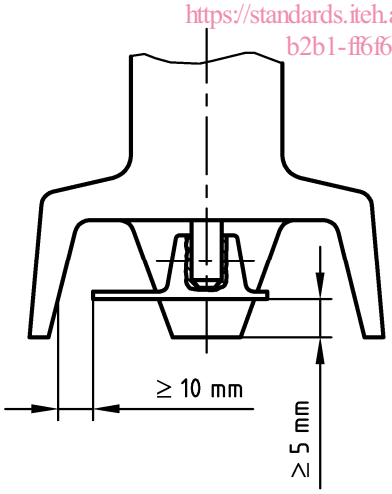
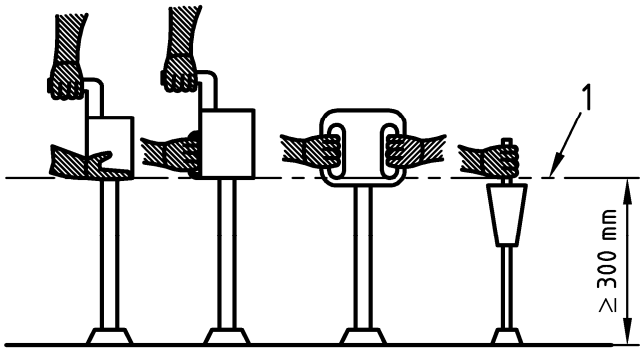


Figure 5 — Fixed guard on the drive side



Key
1 Lower limit of the grip zone

Figure 6 — Safety distance between the grip zone and the tool