



SLOVENSKI STANDARD

SIST EN 12268:2015

01-januar-2015

Nadomešča:

SIST EN 12268:2003+A1:2010

Stroji za predelavo hrane - Tračne žage - Varnostne in higienske zahteve

Food processing machinery - Band saw machines - Safety and hygiene requirements

Nahrungsmittelmaschinen - Bandsägemaschinen - Sicherheits- und Hygieneanforderungen

Machines pour les produits alimentaires - Scies à ruban - Prescriptions relatives à la sécurité et à l'hygiène

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-3152/sist/en-12268-2015>

Ta slovenski standard je istoveten z: EN 12268:2014

ICS:

25.080.60	Strojne žage	Sawing machines
67.260	Tovarne in oprema za živilsko industrijo	Plants and equipment for the food industry

SIST EN 12268:2015

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 12268:2015](#)

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015>

EUROPEAN STANDARD

EN 12268

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2014

ICS 67.260

Supersedes EN 12268:2003+A1:2010

English Version

Food processing machinery - Band saw machines - Safety and hygiene requirements

Machines pour les produits alimentaires - Scies à ruban -
Prescriptions relatives à la sécurité et à l'hygiène

Nahrungsmittelmaschinen - Bandsägemaschinen -
Sicherheits- und Hygieneanforderungen

This European Standard was approved by CEN on 13 September 2014.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

[SIST EN 12268:2015](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015)

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015>



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
1.1 General.....	6
1.2 Description of various machine types.....	6
1.2.1 General.....	6
1.2.2 Type A.....	7
1.2.3 Type B.....	7
1.2.4 Type C.....	7
1.2.5 Type D.....	8
2 Normative references	9
3 Terms and definitions	9
4 List of hazards.....	11
5 Safety requirements and/or measures	12
5.1 General.....	12
5.2 Mechanical hazards	13
5.2.1 General.....	13
5.2.2 Saw blade protection outside of the cutting zone – Zone 1	13
5.2.3 Protection at the cutting zone – Zone 2.....	13
5.2.4 Bottom and top wheels – Zone 3 and Zone 4.....	17
5.2.5 Sliding feed table – Zone 5	17
5.2.6 Drive system – Zone 6.....	17
5.3 Electrical hazards	17
5.3.1 General.....	17
5.3.2 Stopping function of switching devices.....	17
5.3.3 Protection against water ingress	17
5.3.4 ON- and OFF-switch	19
5.3.5 Safety requirements related to electromagnetic phenomena.....	19
5.3.6 Wheel-mounted band saw machines.....	19
5.4 Hazard from loss of stability.....	19
5.5 Noise hazard – Noise reduction at the design stage	19
5.6 Ergonomic requirements	20
5.7 Hygiene and cleaning.....	20
5.7.1 General.....	20
5.7.2 Food area.....	20
5.7.3 Splash area.....	21
5.7.4 Non-food area.....	21
5.7.5 Surface conditions.....	21
5.7.6 Cleaning.....	21
6 Verification of safety requirements and/or measures.....	21
7 Information for use	23
7.1 General.....	23
7.2 Instruction handbook	23
7.3 Marking	25
Annex A (normative) Noise test code for band saw machines (grade 2).....	26

A.1	Emission sound pressure level determination	26
A.2	Sound power level determination	26
A.3	Installation and mounting conditions	26
A.4	Operating conditions	26
A.5	Measurement	26
A.6	Information to be recorded	27
A.7	Information to be reported	27
A.8	Declaration and verification of the noise emission values	27
Annex B	(normative) Design principles to ensure cleanability of band saw machines	28
B.1	Definitions	28
B.2	Materials of construction	29
B.3	Design	29
Annex C	(informative) Examples of work aid tools having a protective function	34
C.1	General	34
C.2	Example of a pusher to saw small parts (chicken legs, wings...)	34
C.3	Example of a device for cutting pork knuckles, shoulders and chest bones... ..	35
C.4	Example of a device for cutting of feet, long products	36
C.5	Example of a device for cutting frozen plates	37
C.6	Example of a pusher that is not an integral part of the machine and that slides in the table groove	38
C.7	Example of a device for slicing parts	39
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	40
Bibliography	41

iteh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 12268:2015](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015)

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015>

EN 12268:2014 (E)**Foreword**

This document (EN 12268:2014) 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 May 2015 and conflicting national standards shall be withdrawn at the latest by May 2015.

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 supersedes EN 12268:2003+A1:2010.

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 12268:2003+A1:2010 are listed below:

- Clause 1: clarification of the scope, new clause to describe the machine types; displacement of requirements in the appropriate clauses;
- Clause 2: normative references updated; [SIST EN 12268:2015](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bacef7f53/sist-en-12268-2015)
- Clause 3: terms partly revised (e.g. fixed feed table), consistent use throughout the standard;
- Clause 4: new presentation in a table;
- Clause 5: new 5.2 according to the danger zones; more specific requirements to product pusher, protective rail and blade guide;
- Clause 6: verification list updated;
- Clause 7: completion of 7.2 with all information referred to in Clause 5, now including operator training; 7.3 now contains the marking;
- annexes: old Annex C "Common hazard" deleted and shifted into appropriate clauses;
- figures partly renewed.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

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

The machinery concerned and the extent to which hazards, hazardous situations and hazardous 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 12268:2015](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015)

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015>

EN 12268:2014 (E)**1 Scope****1.1 General**

This European Standard specifies requirements for the design and manufacturing of band saw machines as described in 1.2 (see Figures 1 to 5).

The machines covered by this European Standard are used to cut:

- bones;
- fresh or deep frozen meat with or without bones;
- fresh or deep frozen fish, natural or in fillets;
- deep frozen block food products;
- fresh or deep frozen vegetables;
- other products such as pork fat or similar products.

The band saw machines covered by this European Standard do not include band saw machines for processing wood and similar materials which are covered by the EN 1807 series.

Band saw machines for domestic use are not included in this European Standard.

This European Standard is not applicable to band saw machines which were manufactured before its date of publication as EN.

[SIST EN 12268:2015](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-101c1d420000/sist-en-12268-2015)

[https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-](https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-101c1d420000/sist-en-12268-2015)

This European Standard deals with all significant hazards, hazardous situations and events relevant to band saw machines, 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 all the lifetime of the machine, including the phases of transport, assembly, commissioning, operation, cleaning, use, maintenance, decommissioning, dismantling, disabling and scrapping of the machine.

This European Standard covers the following types of machines:

- band saw machines designed as table-top machines with and without base;
- band saw machines designed as floor-type machines with and without castors.

1.2 Description of various machine types**1.2.1 General**

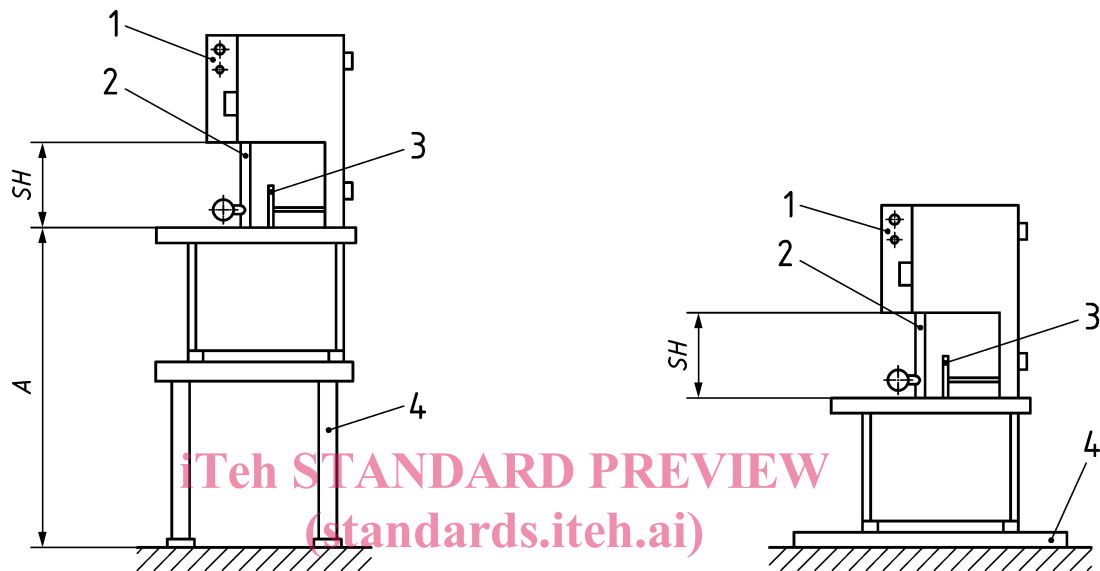
Band saw machines consist of a machine casing, a fixed feed table or a sliding feed table, a roller conveyor or conveyor belt, a product pusher, a height-adjustable protective rail, a top and a bottom wheel, a saw blade, an upper and lower blade guide, a blade tensioning device, a drive and electrical components, depending on machine type. This standard does not deal with machinery with automatic loading/unloading systems (e.g. automatic conveyors).

On floor-type band saw machines, the product to be cut is placed by hand onto the fixed feed table or sliding feed table and pushed against the cutting zone of the saw blade by means of the product pusher or the rear table wall on the sliding feed table or by means of the roller conveyor or conveyor belt and sawed.

1.2.2 Type A

Band saw machine with a fixed feed table and a non-detachable, movable product pusher:

Maximum cutting height $SH \leq 250$ mm.



Key

- 1 ON-/OFF-switch
- 2 product pusher
- 3 portioning plate
- 4 table

Figure 1 — Band saw machine type A with product pusher – Location: table top

Key

- 1 ON-/OFF-switch
- 2 product pusher
- 3 portioning plate
- 4 base

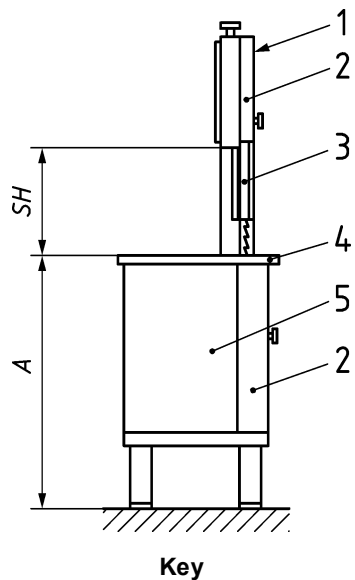
Figure 2 — Band saw machine type A with product pusher – Location: base

1.2.3 Type B

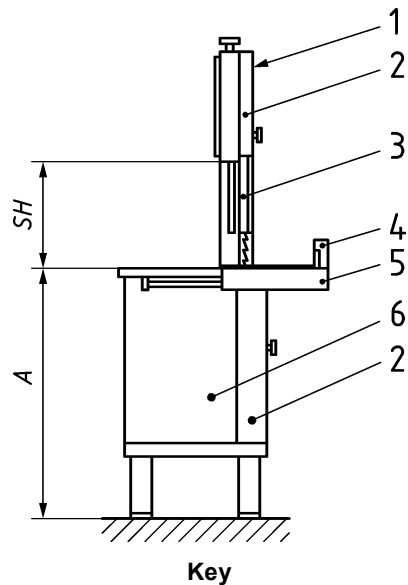
Band saw machine with a fixed feed table, a protective rail and a maximum cutting height < 420 mm.

1.2.4 Type C

Band saw machine with a sliding feed table, a protective rail and a maximum cutting height ≤ 420 mm.



- 1 ON-/OFF-switch
- 2 door
- 3 protective rail
- 4 fixed feed table
- 5 machine rack



- 1 ON-/OFF-switch
- 2 door
- 3 protective rail
- 4 finger protection bar
- 5 sliding feed table
- 6 machine rack

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Figure 3 — Band saw machine type B with fixed feed table and protective rail

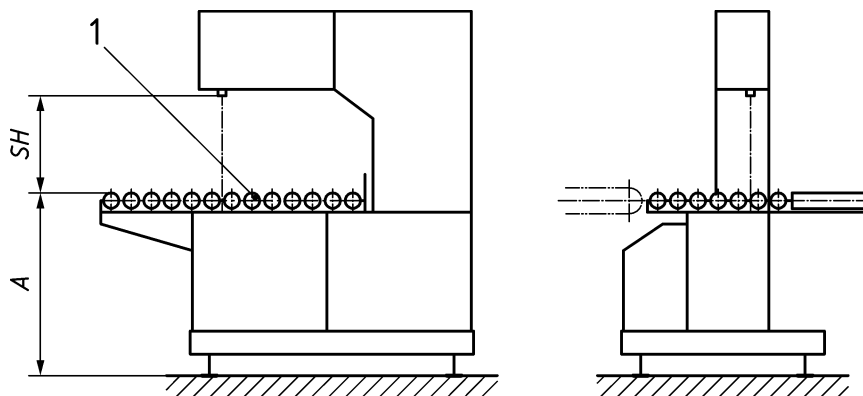
Figure 4 — Band saw machine type C with sliding feed table and protective rail

SIST EN 12268:2015

1.2.5 Type D

<https://standards.iteh.ai/catalog/standards/sist/e754e555-6571-44c3-9af0-d91bace3f52/sist-en-12268-2015>

Band saw machine with non-automatic feed and removal unit (e.g. roller conveyor, conveyor belt); maximum cutting height $SH \leq 550$ mm.



Key

- 1 roller conveyor or transport conveyor

Figure 5 — Band saw machine type D with feed and removal unit

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 614-1, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

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 machinery operation*

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, modified)*

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

EN ISO 3744, *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)*

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

EN ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections (ISO 11204:2010)*

EN ISO 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1)*

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

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2008)*

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

3 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

portioning plate

plate parallel to the saw blade and adjustable to the required slice thickness

EN 12268:2014 (E)**3.2****bottom wheel**

wheel below the table for driving the saw blade

3.3**blade guide**

component for guiding the saw blade

3.4**blade tensioning device**

component for tensioning and releasing the tension of a saw blade

3.5**finger protection bar**

safeguard on the table rear wall to prevent fingers from reaching the cutting zone

3.6**product pusher**

movable device for manually pushing the product towards the cutting zone

3.7**last slice device**

plate for feeding the last part of the product

3.8**saw blade**

cutting tool in the form of a continuous toothed band

3.9**protective rail**

safeguard for covering the unused portion of the saw blade above the cutting zone

3.10**cutting height**

thickness of product that can be processed by the machines

3.11**table rear wall**

device on the sliding feed table to hold the product and to push it towards the cutting zone

3.12**top wheel**

pulley wheel for reversing the saw blade above the table

3.13**cutting line**

system for automatic product processing

3.14**fixed feed table**

table surface for manual product supply

3.15**sliding feed table**

movable table surface with table rear wall for product supply

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12268:2015

https://standards.iteh.ai/catalog/standards/sist-en-12268-2015/3-9af0-d91bace3f52/sist-en-12268-2015

4 List of hazards

This clause contains all the significant hazards, hazardous situations and events, identified by risk assessment as significant for this type of machine (see Figure 6) and which require measures to eliminate or reduce the risk associated with the identified hazards (see Table 1).

Table 1 — List of significant hazards

Hazards, hazardous situations and hazardous events	Location or cause	Clause/subclause in this European Standard
Hazards	General	5.1
Mechanical hazards	General	5.2.1
— crushing;	zone 1: area of saw blade outside the cutting zone	5.2.2
— severing;	zone 2: cutting zone	5.2.3
— shearing;	zone 3 and zone 4: bottom and top wheels	5.2.4
— trapping;	zone 5: sliding feed table	5.2.5
— cutting; — drawing in	zone 6: drive units	5.2.6
Electrical hazards	electric shock from direct or indirect contact with live components external influences on electrical equipment (e.g. cleaning with water)	5.3
Hazards generated by loss of stability	the complete machine	5.4
Hazards generated by noise	machines generate noise that can lead to damage of hearing	5.5
Hazard generated by neglecting ergonomic principles	unhealthy body posture or excessive physical effort; inadequate consideration of human hand/arm or foot/leg anatomy by design of machines; no respect of the working area.	5.6
Hazard generated by neglecting hygienic design principles	e.g. contamination by microbial growth or foreign materials	5.7