



SLOVENSKI STANDARD
SIST EN 12268:2003

01-julij-2003

Glavni namen tega standarda je določiti zahteve za varnost in higijeno strojne opreme za predelavo hrane.

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

Nahrungsmittelmaschinen - Bandsägemaschinen - Sicherheits- und Hygieneanforderungen

Machines pour les produits alimentaires - Scies a ruban - Prescriptions relatives a la sécurité et a l'hygiene

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67.260

Tovarne in oprema za
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Plants and equipment for the
food industry

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en

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EUROPEAN STANDARD

EN 12268

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2003

ICS 67.260

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 9 January 2003.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

	page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	8
3 Terms and definitions.....	9
4 List of hazards.....	10
4.1 General.....	10
4.1.1 Mechanical hazards	10
4.2 Electrical hazards	12
4.3 Hazard from loss of stability.....	12
4.4 Noise hazard.....	12
4.5 Hazards from non-compliance with ergonomic principles	12
4.6 Hazards from non-compliance with hygiene principles	12
5 Safety requirements and/or measures	13
5.1 General.....	13
5.2 Mechanical hazards	13
5.3 Electrical hazards	17
5.4 Hazard from loss of stability.....	20
5.5 Noise hazard - Noise reduction at the design stage	20
5.6 Ergonomic requirements	20
5.7 Hygiene and cleaning	20
6 Verification of safety requirements and/or measures.....	22
7 Information for use	23
7.1 General.....	23
7.1.2 Instruction handbook	23
7.2 Operator training.....	24
8 Marking	25
Annex A (normative) Noise test code for band saw machines (grade 2)	26
Annex B (normative) Design principles to ensure cleanability of band saw machines	28
Definition.....	28
Materials of construction	29
Design 29	
Annex C (normative) Common hazards for food processing machines and reduction requirements applicable to band saw machines.....	33
Annex ZA (informative) Relationship of this document with EC Directives.....	35
Bibliography	36

Foreword

This document (EN 12268:2003) has been prepared by Technical Committee CEN/TC 153 "Food processing machinery – Safety and hygiene requirements", the secretariat of which is held by DIN.

It has been prepared by Working Group 2 "Meat Processing Machinery" of CEN/TC 153.

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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

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 EC Directives.

For relationship with EC Directives, see informative annex ZA, which is an integral part of this document.

It is one of a series of standards which have been prepared for machines and equipment for meat processing in compliance with EN 1672-2:1997 and annex C and attends to machines, which are attached by Annex IV of Machinery Directive 89/37 EEC. Band saw machines, which are not fed by hand, do not come under Annex IV.

Annexes A, B and C are normative.

This European Standard also contains a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard covers

- Band saw machines designed as table-top machines with and without base
- Band saw machines designed as floor-type machines
- Band saw machines integrated in a cutting line

The extent to which hazards are covered is indicated in this European Standard. For other hazards which are not covered by this European Standard, machinery should comply with EN 292 where applicable.

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1 Scope

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

The machines covered by this European Standard are used to cut bone and meat.

The band saw machines covered by this European Standard do not include band saw machines for processing wood and similar materials and the requirements of EN 1807 do not apply.

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

This European Standard only applies to machines which are manufactured after the date of issue of this European Standard.

This European Standard covers the following types of machines:

Band saw machines which are placed on the floor and can be wheel-mounted (see Figure 6).

— Type A

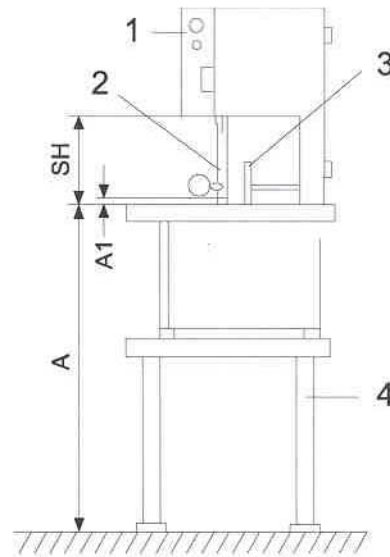
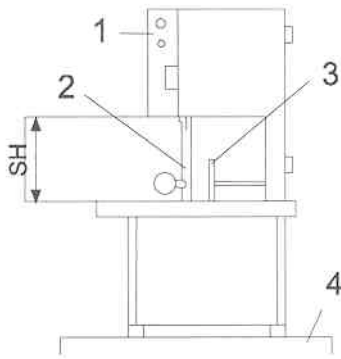
Band saw machine with a feed table and a fixed product pusher

Cutting height SH < 250 mm

Location: Table (see Figure 1) or base (see Figure 2). Distance A from the floor to the top surface of the feed table is between 800 mm and 1050 mm.

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Key

- 1 ON / OFF switch
- 2 Product pusher
- 3 Portioning plate
- 4 Table

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- 1 ON / OFF switch
- 2 Product pusher
- 3 Portioning plate
- 4 Base

Figure 1 — Type A, Band saw machine with product pusher - Location: table top

Figure 2 — Type A, Band saw machine with product pusher - Location: base

— Type B

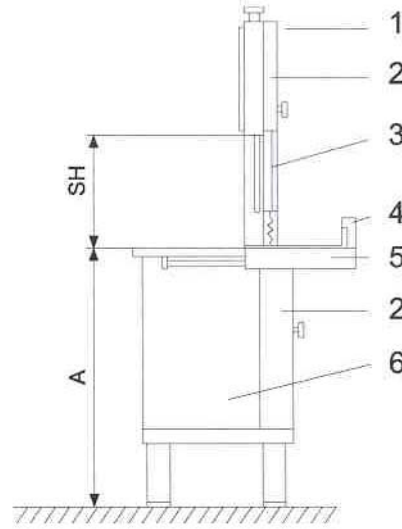
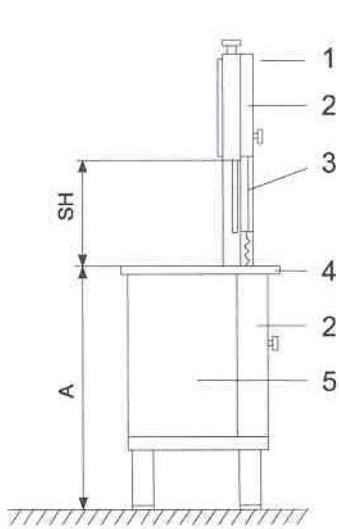
Band saw machine with a feed table, a protective rail and a cutting height $250 \text{ mm} \leq SH < 420 \text{ mm}$.

Distance A from the floor to the top surface of the feed table is between 800 mm and 1050 mm. Location: floor (see Figure 3)

— Type C

Band saw machine with a sliding feed table, a protective rail and a cutting height $250 \text{ mm} \leq SH < 420 \text{ mm}$.

Distance A from the floor to the top surface of the sliding feed table is between 800 mm and 1050 mm. Location: floor (see Figure 4).



Key

- 1 ON / OFF switch
- 2 Door
- 3 Protective rail / Product pusher
- 4 Feed table
- 5 Machine rack

- 1 ON / OFF switch
- 2 Door
- 3 Protective rail / Product pusher
- 4 Finger protection bar
- 5 Sliding feed table
- 6 Machine rack

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

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

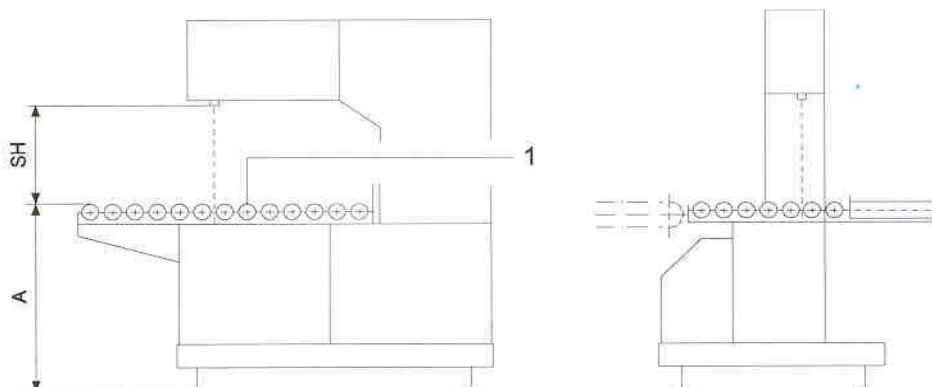
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— Type D

Band saw machine with feed and removal unit (e.g. roller conveyor, conveyor belt); integrated in a cutting plant, cutting height SH < 550mm.

Distance A from the floor to the feed surface is between 800 mm and 1050 mm. Location: floor (see Figure 5).



SH < 550 mm

Key

- 1 Roller conveyor or transport conveyor

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

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. The requirements for automatic loading/unloading systems, conveyors, etc. do not fall within the scope of this European Standard.

The intended uses of the machines are described in clause 7.

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.

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 (including amendments).

EN 292-1, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications.*

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

EN 953:1997, *Safety of machinery – Guards - General requirements for the design and construction of fixed and movable guards.*

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

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 1070:1998, *Safety of machinery – Terminology.*

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

EN 1672-2:1997, *Food processing machinery - Basic concepts - Part 2: Hygiene requirements.*

EN 60204-1:1997, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:1997).*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989).*

EN 61000-6-1, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards; Immunity for residential, commercial and light-industrial environments (IEC 61000-6-1:1997, modified).*

EN 61000-6-2, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards; Immunity for industrial environments (IEC 61000-6-2:1999, modified).*

EN 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards; Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:1996, modified).*

EN 61000-6-4, *Electromagnetic compatibility (EMC) - Part 6-4: Generic standards; Emission standard for industrial environments (IEC 61000-6-4:1997, modified).*

EN ISO 3744, *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 11204:1995, *Acoustics - Noise emitted by machinery and equipment - Measurement of emission sound pressure levels at a work station and at other specified positions - Method requiring environmental corrections (ISO 11204:1995).*

EN ISO 11688-1, *Acoustics - Recommended practice for the design of low-noise machinery and equipment - Part 1: Planning (ISO/TR 11688-1:1995).*

3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in EN 1070:1998 and the following apply (see Figures 1 to 4).

3.1

portioning plate

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

3.2

bottom wheel

wheel below the table for driving the saw blade

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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

device 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

device 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**

unit for automatic product processing with roller conveyors or conveyor belts

**3.14
feed table**

table surface for manual product supply

**3.15
sliding feed table**

movable table surface with table rear wall for product supply

4 List of hazards

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4.1 General

This clause and annex C contains the hazards and hazardous situations, as far as they are dealt with in this European Standard, identified by a risk assessment significant for meat band-saws and which require action to eliminate or reduce risk.

Before using this standard it is important to carry out a risk assessment of the meat band-saw to check that it has the hazards identified in this clause.

4.1.1 Mechanical hazards

Band saw machines type A to D (see Figure 6)

4.1.2 Area of saw blade

— Zone 1

Saw blade outside of the cutting zone

Hazard of cutting or severing fingers.

— Zone 2

Saw blade at cutting zone

Hazard of cutting or severing fingers.