



**SLOVENSKI STANDARD**  
**oSIST prEN 13378:2016**  
**01-junij-2016**

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**Stroji za izdelavo testenin - Iztiskovalniki testenin - Varnostne in higienske zahteve**

Pasta processing plant - Pasta presses - Safety and hygiene requirements

Maschinen zur Teigwarenherstellung - Pressen zur Teigwarenherstellung - Sicherheits- und Hygieneanforderungen

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**ICS:**

67.260	Tovarne in oprema za živilsko industrijo	Plants and equipment for the food industry
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EUROPEAN STANDARD  
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English Version

## Pasta processing plant - Pasta presses - Safety and hygiene requirements

Machines pour pâtes alimentaires - Presses pour pâtes alimentaires - Prescriptions relatives à la sécurité et à l'hygiène

Maschinen zur Teigwarenherstellung - Pressen zur Teigwarenherstellung - Sicherheits- und Hygieneanforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 153.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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## prEN 13378:2016 (E)

### European foreword

This document (prEN 13378:2016) 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 document is currently submitted to the CEN Enquiry.

This document will supersede EN 13378:2001+A1:2013.

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.

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## Introduction

This European Standard 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.

Complementary to the hygiene requirements common to all food processing machines, specific requirements for cleanability and sanitation of the machines in the scope are formulated.

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**prEN 13378:2016 (E)****1 Scope**

This European Standard applies to pasta presses (see Clause 3) used for continuous pasta production.

This European Standard specifies the safety requirements for the design, manufacture and information for use for continuous pasta presses and deals with all significant hazards, hazardous situations, and events when the machines falling within the scope of this standard are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

It deals with the hazards during the following phases of the machines' lifetime: transport, assembly and installation, commissioning, setting and adjusting, operation, cleaning, fault finding, maintenance, decommissioning, dismantling, disabling and scrapping.

The measures for risk reduction are given in Clause 5.

This European Standard does not apply to:

- household machines,
- batch machines,
- cutting unit.

The significant hazards covered by this standard are listed in Clause 4.

These hazards, as well as the measures for their reduction, are described in the present European Standard.

Ancillary equipment which is not an integral part of the continuous pasta press (e.g. hoppers, conveyors, etc.) is not covered by this European Standard.

This European Standard is not applicable to machines in its scope which are manufactured before the date of 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 614-1, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 953:1997+A1:2009, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

EN 1005-2:2003+A1:2008, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

EN 1037:1995+A1:2008, *Safety of machinery — Prevention of unexpected start-up*

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 60529:1991<sup>1)</sup>, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60947-5-5, *Low-voltage switchgear and controlgear — Part 5-5: Control circuit devices and switching elements — Electrical emergency stop device with mechanical latching function (IEC 60947-5-5)*

EN 61310-1, *Safety of machinery - Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310 1)*

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 3746, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746)*

EN ISO 3747, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering/survey methods for use in situ in a reverberant environment (ISO 3747)*

EN ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414:2010)*

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

EN ISO 7731, *Ergonomics — Danger signals for public and work areas — Auditory danger signals (ISO 7731)*

EN ISO 9614-1, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 1: Measurement at discrete points (ISO 9614-1)*

EN ISO 9614-2, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning (ISO 9614-2)*

EN ISO 11201, *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)*

EN ISO 11202, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202)*

EN ISO 11204, *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)*

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1) EN 60529:1991 is currently impacted by the amendments EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

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

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

EN ISO 13850, *Safety of machinery — Emergency stop function — Principles for design (ISO 13850)*

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

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

EN ISO 14122 (all parts), *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels (ISO 14122, all parts)*

ISO 468, *Surface roughness — Parameters, their values and general rules for specifying requirements*

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

ISO 3864-2, *Graphical symbols — Safety colours and safety signs — Part 2: Design principles for product safety labels*

ISO 3864-3, *Graphical symbols — Safety colours and safety signs — Part 3: Design principles for graphical symbols for use in safety signs*

### **3 Terms, definitions and descriptions**

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

#### **3.1 Terms and definitions**

##### **3.1.1**

##### **movable parts**

features that need to be exchanged and therefore handled due to cleaning, maintenance or product change

Note 1 to entry: Features are, for example, shafts, screws, dies, pre-dies, covers, etc.

##### **3.1.2**

##### **continuous pasta press**

machine with non-stop product cycle where the raw materials are fed automatically into the machine and the end product is extruded without interruptions

**3.1.3****dosing unit**

assembly where solid and liquid ingredients are measured and transferred into the mixing unit

**3.1.4****mixing unit**

assembly where ingredients are mixed until becoming a homogeneous dough which is transferred into the compression unit

**3.1.5****compression unit**

assembly where the dough is pressed to become pasta to be transferred to the forming units

**3.1.6****forming unit**

assembly where pasta is pushed through to be shaped

**3.1.7****pre-mixing unit**

unit that carries out the initial mixing stage of milled products and liquid ingredients, i.e. water and eggs, by rotation of a mixing tool

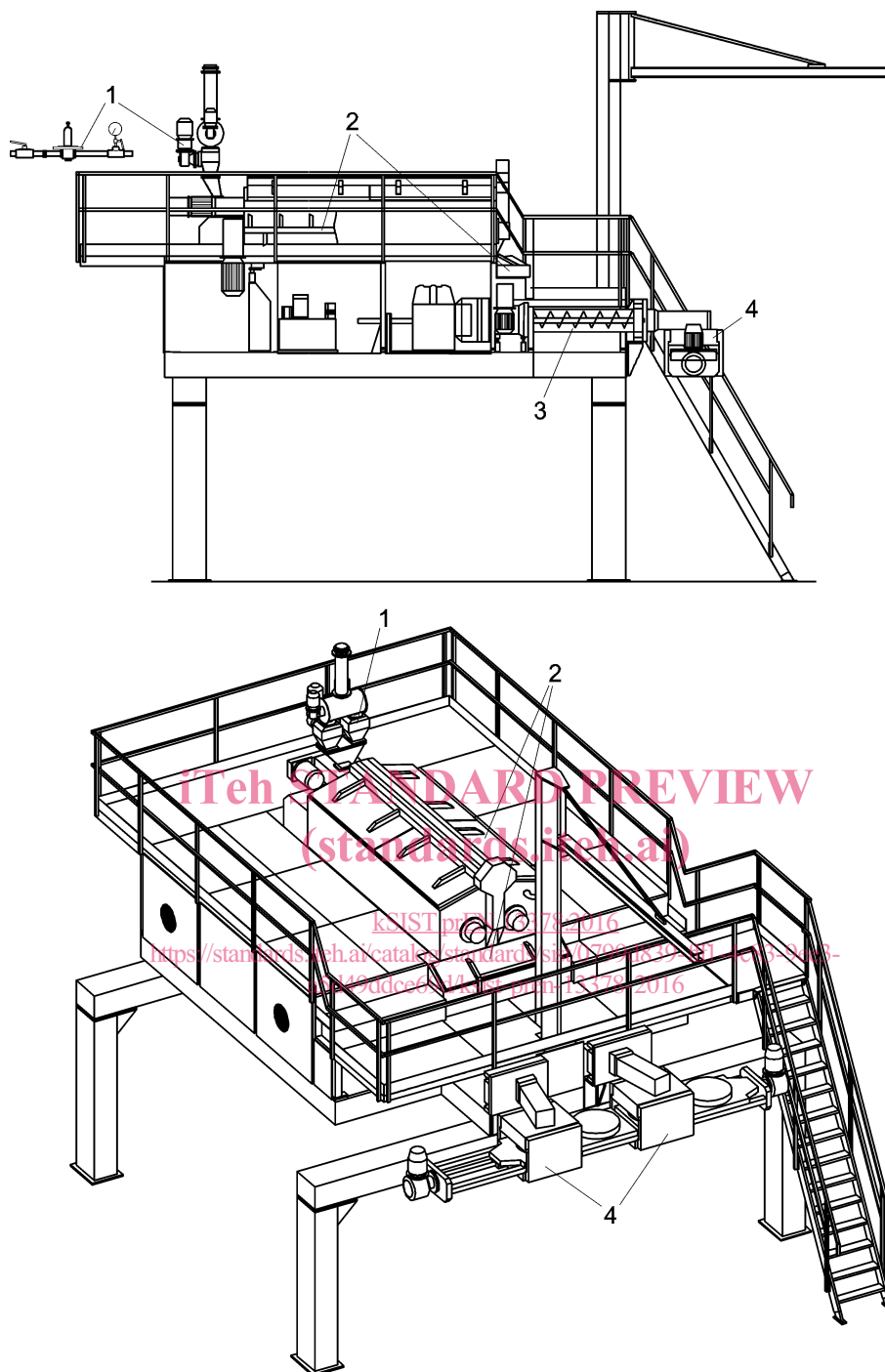
**3.2 Descriptions****3.2.1 Continuous pasta press**

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The pasta press (see Figure 1) begins with the dosing unit and ends with the die.

The principal components are:

- dosing unit;
- pre-mixing unit (optional);
- mixing unit;
- compression unit;
- forming unit.

**Key**

- 1 dosing units
- 2 mixing units
- 3 compression units
- 4 forming units

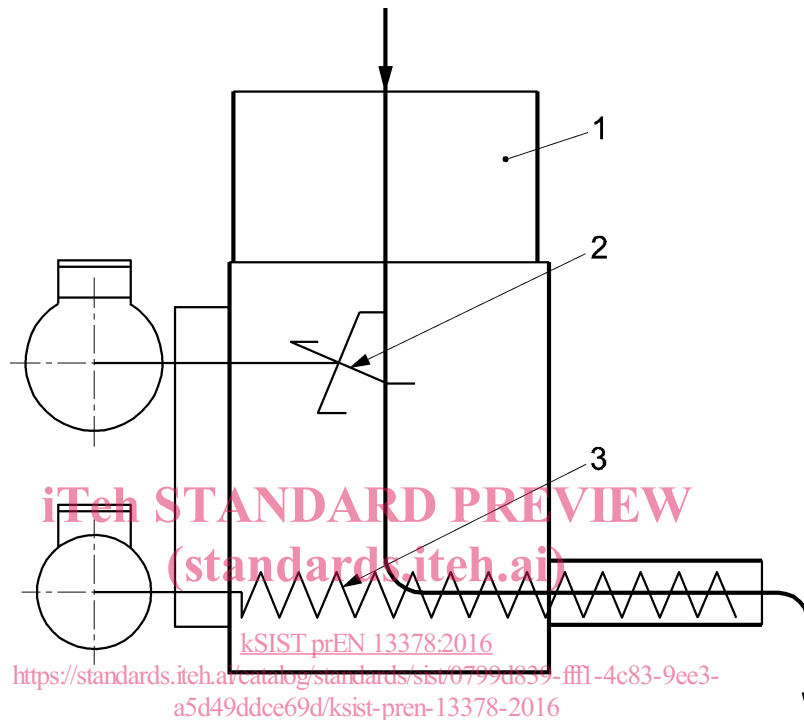
**Figure 1 — Continuous pasta press**

### 3.2.2 Dosing unit

Dosing units are composed principally of solid ingredients dosers (for example for flour, semolina and/or other milled ingredients) and of liquid dosers (e.g. for water, eggs, additives).

Solid ingredients dosers can be volumetric or gravimetric.

The principal components for solid ingredients dosing units (see Figure 2) are for example feeding devices, devices to keep the flow continuous and dosing tools.



#### Key

- 1 hopper
- 2 shaker
- 3 screw

**Figure 2 — Example of volumetric dosing unit**

The principal components for liquid dosing units are for example valves, pumps and flow meters.

### 3.2.3 Pre-mixing unit

The principal components are (see Figure 3):

- case with connection pieces for inlet of solid and liquid ingredients and pre-mix outlet;
- mixing tool (e.g. single or double shaft with blades).