



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 19085-6:2021**  
**01-september-2021**

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**Lesnoobdelovalni stroji - Varnost - 6. del: Enovretenski vertikalni rezkalni stroji  
(ISO/DIS 19085-6:2021)**

Woodworking machines - Safety - Part 6: Single spindle vertical moulding machines  
("toupies") (ISO/DIS 19085-6:2021)

Holzbearbeitungsmaschinen - Sicherheit - Teil 6: Einspindelige senkrechte  
Tischfräsmaschinen (ISO/DIS 19085-6:2021)

Machines à bois - Sécurité - Partie 6: Toupies monobroches à arbre vertical (ISO/DIS  
19085-6:2021)

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**Ta slovenski standard je istoveten z: prEN ISO 19085-6**

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**ICS:**

13.110	Varnost strojev	Safety of machinery
25.080.20	Frezalniki	Boring and milling machines
79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 19085-6

ISO/TC 39/SC 4

Secretariat: UNI

Voting begins on:  
2021-06-29Voting terminates on:  
2021-09-21

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## Woodworking machines — Safety —

### Part 6: Single spindle vertical moulding machines ("toupies")

ICS: ISO ics

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CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 4 *Woodworking machines*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html). This document is intended to be used in conjunction with ISO 19085-1:2021, which gives requirements common to different machine types.

A list of all parts in the ISO 19085 series can be found on the ISO website.

**ISO/DIS 19085-6:2021(E)****Introduction**

The ISO 19085 series of International Standards provides technical safety requirements for the design and construction of woodworking machinery. It concerns designers, manufacturers, suppliers and importers of the machines specified in the Scope. It also includes a list of informative items that the manufacturer will need to give to the user.

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

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organisations, market surveillance etc.)

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e. g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

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

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

The full set of requirements for a particular type of woodworking machine are those given in the part of ISO 19085 applicable to that type, together with the relevant requirements from ISO 19085-1:2021, to the extent specified in the Scope of the applicable part of ISO 19085.

As far as possible, the safety requirements of parts of the ISO 19085 series refer to the relevant clauses of ISO 19085-1. Each part contains replacements and additions to the common requirements given in ISO 19085-1.

Clauses 1 to 3 are specific to each part and, therefore, replace ISO 19085-1:2021, Clauses 1 to 3.

For Clauses 4 to 7 and the annexes, ISO 19085-1:2021, Clauses 4 to 7 and Annexes, can be:

- confirmed as a whole;
- confirmed with additions;
- excluded in total; or
- replaced with specific text.

This is indicated by one of the following possible statements:

- “ISO 19085-1:2021, [subclause/Annex], applies.”;
- “ISO 19085-1:2021, [subclause/Annex], applies with the following additions.” or “ISO 19085-1:2021, [subclause/Annex], applies with the following additions, subdivided into further specific subclauses.”;
- “ISO 19085-1:2021, [subclause/Annex], does not apply.”;
- “ISO 19085-1:2021, [subclause/Annex], is replaced by the following text.” or “ISO 19085-1:2021, [subclause/Annex], is replaced by the following text, subdivided into further specific subclauses.”.

Other subclauses and annexes specific to this document are indicated by the introductory sentence: “Subclause/Annex specific to this document.”.

NOTE Requirements for tools are given in EN 847-1:2017 and EN 847-2:2017.

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# Woodworking machines — Safety — Part 6: Single spindle vertical moulding machines (toupie)

## 1 Scope

This document gives the safety requirements and measures for single spindle vertical moulding machines as defined in 3.1, capable of continuous production use and hereinafter referred to as “machines”.

The machines are designed to cut solid wood and material with similar physical characteristics to wood.

It deals with all significant hazards, hazardous situations and events as listed in Annex A, relevant to the machines when they are operated, adjusted and maintained as intended and under the conditions foreseen by the manufacturer including reasonably foreseeable misuse. Also, transport, assembly, dismantling, disabling and scrapping phases have been taken into account.

It is also applicable to machines fitted with one or more of the following devices/additional working units, whose hazards have been dealt with:

- a) device for the arbor to be vertically adjustable relative to the table;
- b) device to tilt the arbor;
- c) device to fit a manually operated tenoning sliding table;
- d) glass bead saw unit;
- e) adjustable table insert;
- f) device for changing the direction of rotation of the spindle;
- g) device for fixing shank mounted tools on the arbor;
- h) interchangeable arbor;
- i) quick tool/arbor change system;
- j) demountable power feed unit;
- k) support for the demountable power feed unit with power-driven adjustments.

This document does not apply to

- 1) machines equipped with outboard bearings,
- 2) machines equipped with powered movements of a front extension table and/or a tenoning sliding table.

This document is not applicable to machines intended for use in potentially explosive atmospheres or to machines manufactured prior to the date of its publication.

**ISO/DIS 19085-6:2021(E)****2 Normative references**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

ISO 13849-1:2015, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

ISO 19085-1:2021, *Woodworking machines — Safety — Part 1: common requirements*

EN 847-1:2017, *Tools for woodworking — Safety requirements — Part 1: Milling tools, circular saw blades*

EN 847-2:2017, *Tools for woodworking — Safety requirements — Part 2: Requirements for shanks of shank mounted milling tools*

EN 847-3:2013, *Tools for woodworking — Safety requirements — Part 3: Clamping devices*

IEC 61800-5-2:2007, *Adjustable speed electrical power drive systems — Part 5-2: Safety requirements — Functional*

**3 Terms and definitions**

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For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 13849-1:2015, and ISO 19085-1:2021 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

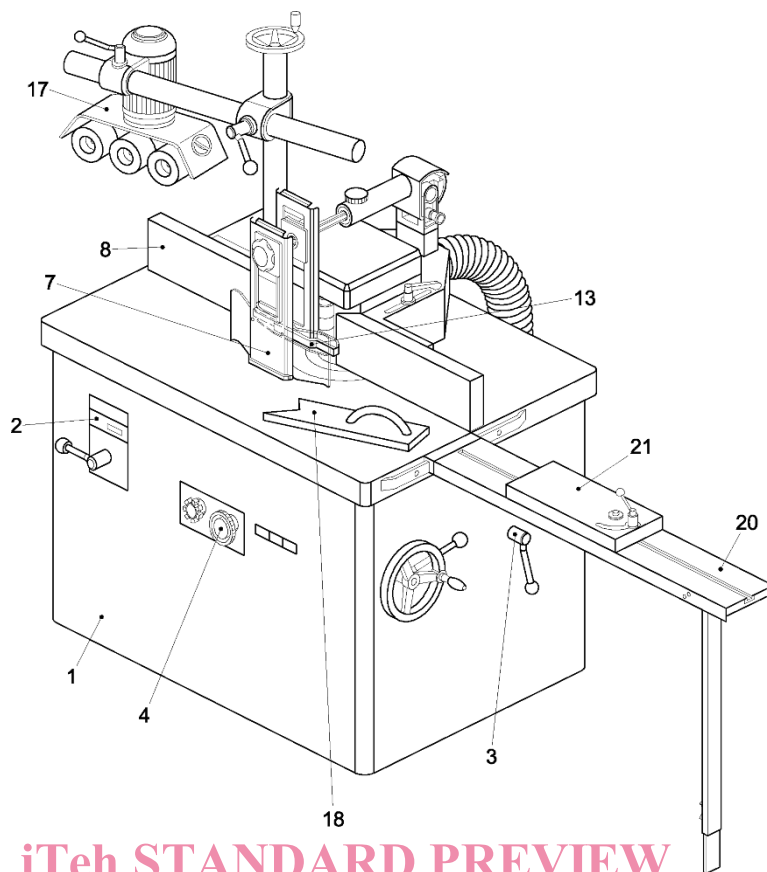
**3.1****single spindle vertical moulding machine**

hand-fed machine fitted with a single vertical arbor (interchangeable or not interchangeable), which is fixed in position during the cutting operation and a horizontal table, which is fixed in total or in part during the cutting operation

Note 1 to entry: The arbor passes through the table and its drive is situated beneath the table.

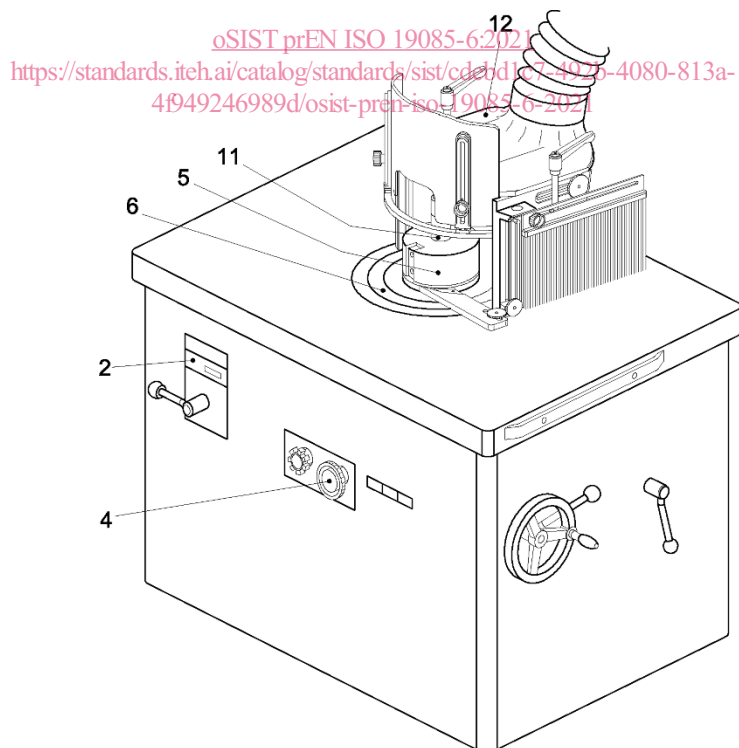
Note 2 to entry: The main parts of the machine and their terminology are shown in Figure 1.

Note 3 to entry: These machines are also known as shapers in the USA and toupie in Europe.



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a) Example of a single spindle vertical moulding machine equipped for straight work



b) Example of a single spindle vertical moulding machine equipped for curved work