International Standard

ISO 19085-13

Woodworking machines — Safety —

Part 13: Multi-blade rip sawing machines with manual loading and/or unloading

Machines à bois — Sécurité —

Partie 13: Déligneuses multi-lames à chargement et/ou déchargement manuel

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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

For an explanation of 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.

This document was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 4, *Woodworking machines,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 142, *Woodworking machines - Safety,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 19085-13:2020), which has been technically revised.

The main changes are as follows:

— the Scope has been revised to specify that machines are intended for continuous production use;

— machines with all saw blades spindles mounted below the workpiece support/level only have been covered and their exclusion deleted from Scope;

— the list of significant hazards has been moved to a new Annex A and subsequent clauses and annexes have been renumbered;

— subclause 6.2 has been updated and a new full noise test code has been added in Annex F.

This document is intended to be used in conjunction with ISO 19085-1:2021.

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

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.

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Introduction

The ISO 19085 series provides technical safety requirements for the design and construction of woodworking machinery, as well as for the content of the relevant instruction handbook. It concerns designers, manufacturers, suppliers and importers of the machines specified in the Scope.

This document is a type-C standard as stated in ISO 12100:2010.

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 the case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at 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 curtain described in 5.9.3.1.5 as part of the relevant anti-splinter system is patented. However, the patent holder is willing to negotiate licences with other parties on a non-discriminatory basis on reasonable terms and conditions, and has provided ISO with the relevant Patent Statement and Licensing Declaration.

The full set of requirements for a particular type of woodworking machine are those given in the part of the ISO 19085 series 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 the ISO 19085 series.

As far as possible, the safety requirements of parts of the ISO 19085 series refer to the relevant subclauses of ISO 19085-1:2021. Each part contains replacements and additions to the common requirements given in ISO 19085-1:2021.

All parts of the ISO 19085 series have the same structure, so that reference to ISO 19085-1:2021 is made always and only from and to the same subclause number at the last indent level.

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

For Clauses 4 to 7 and the annexes, each subclause in ISO 19085-1:2021 is cited as either:

— confirmed as a whole;

— confirmed with additions;

— excluded entirely; or

— replaced with specific text.

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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.”.

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Woodworking machines — Safety —

Part 13: Multi-blade rip sawing machines with manual loading and/or unloading

1 Scope

This document specifies the safety requirements and measures for multi-blade rip sawing machines with manual loading or unloading or both, capable of continuous production use, hereinafter referred to also as "machines", designed to cut solid wood and materials with similar physical characteristics to wood.

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

This document does not deal with specific hazards related to the combination of single machines with any other machine as part of a line.

This document is not applicable to machines:

— intended for use in potentially explosive atmosphere;

— manufactured prior to its publication.

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 1421:2016, *Rubber- or plastics-coated fabrics — Determination of tensile strength and elongation at break*

ISO 2060:1994, *Textiles — Yarn from packages — Determination of linear density (mass per unit length) by the skein method*

ISO 2286-2:2016, *Rubber- or plastics-coated fabrics — Determination of roll characteristics — Part 2: Methods for determination of total mass per unit area, mass per unit area of coating and mass per unit area of substrate*

ISO 4649:2024, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 7211-2:2024, , *Textiles — Methods for analysis of woven fabrics construction — Part 2: Determination of number of threads per unit length*

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

ISO 13856-2:2013, *Safety of machinery — Pressure-sensitive protective devices — Part 2: General principles for design and testing of pressure-sensitive edges and pressure-sensitive bars*

ISO 13856-3:2013, *Safety of machinery — Pressure-sensitive protective devices — Part 3: General principles for design and testing of pressure-sensitive bumpers, plates, wires and similar devices*

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ISO 13857:2019, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

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

IEC 61310-1:2007, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals*

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

EN 894-2:1997+A1:2008, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*

3 Terms and definitions

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

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

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

— IEC Electropedia: available at https://www.electropedia.org/

3.1
multi-blade rip sawing machine
machine designed to be used with circular saw blades at different positions on the spindles which are fixed in position during cutting, where the workpiece is fed to the tools by an integrated power feed, i.e. rollers or chain conveyor

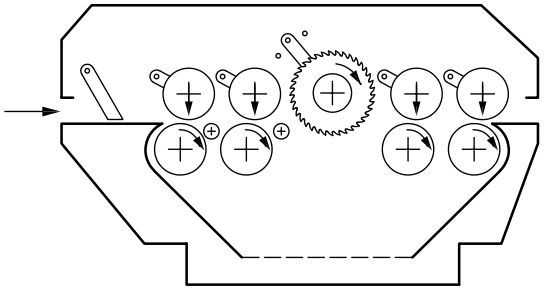
Note 1 to entry: The saw blades can be mounted on one or more saw spindles which can be capable of vertical adjustment. The saw blades can be capable of axial adjustment either relative to the spindle or together with the spindle. The saw blade spindles can be mounted above or below the workpiece support or both.

Note 2 to entry: The cutting can be “against the feed” or “climb cutting” (see ISO 19085-1:2021, 3.14, 3.15 and Figure 1) or a combination of both.

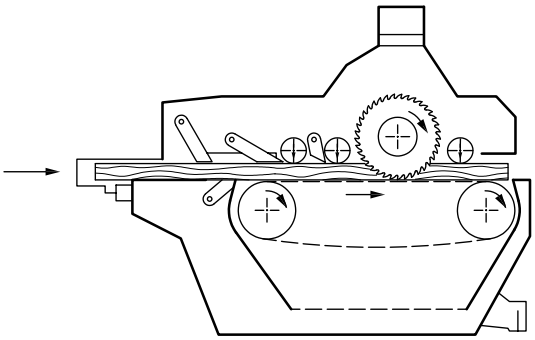
Note 3 to entry: Examples of machines configurations as of feed technology and spindles number and position are shown in Figure 1:

— saw blades spindles:
  — single-spindle machines
    — with the spindle above the workpiece level are shown in Figure 1 a), b) and c),
    — with the spindle below the workpiece level in Figure 1 g) and h);
  — double-spindle machines with spindles one above and one below the workpiece level are shown in Figure 1 d), e) and f);
— workpiece support and integrated feed
  — by feed rollers shown in Figure 1 a), d), g) and h),
  — by chain conveyor in Figure 1 b), c) and e),
  — by a combination of the two in Figure 1 f).

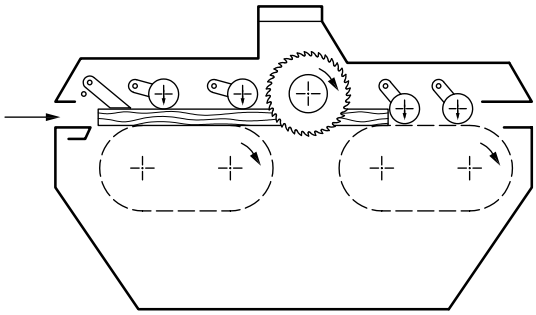
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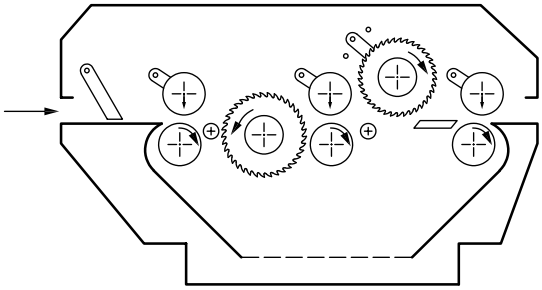
a) Single-spindle machine with feed rollers



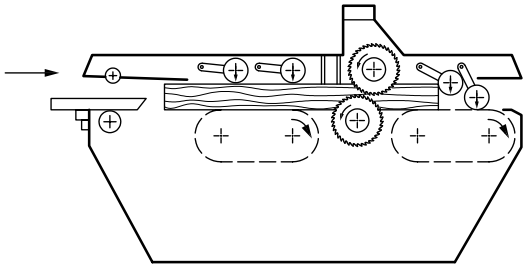
b) Single-spindle machine with chain conveyor



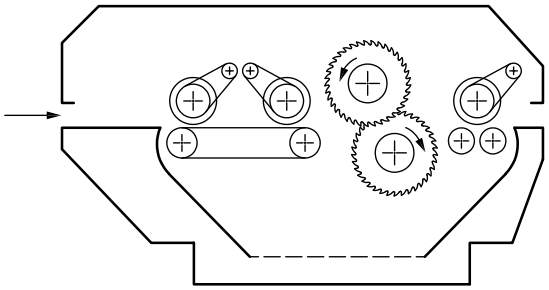
c) Single-spindle machine with chain conveyor



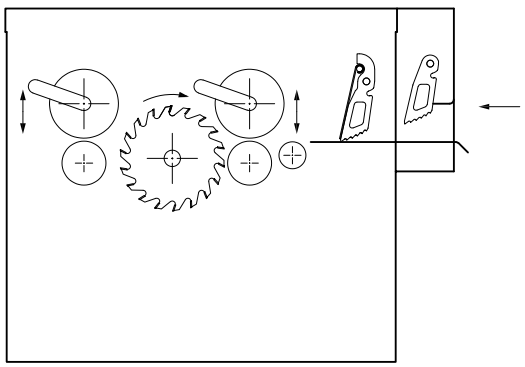
d) Double-spindle machine with feed rollers



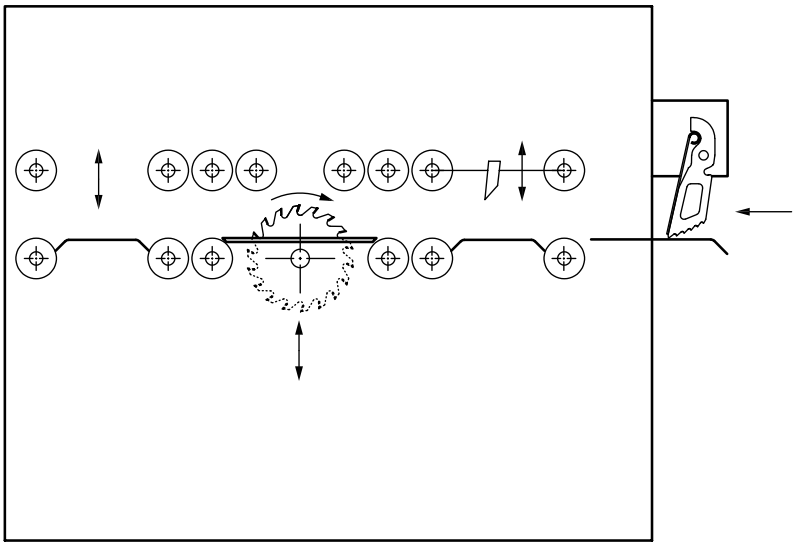
e) Double-spindle machine with chain conveyor



f) Double-spindle machine with chain conveyor and feed rollers



g) Single-spindle machine with feed rollers



h) Single-spindle machine with feed rollers

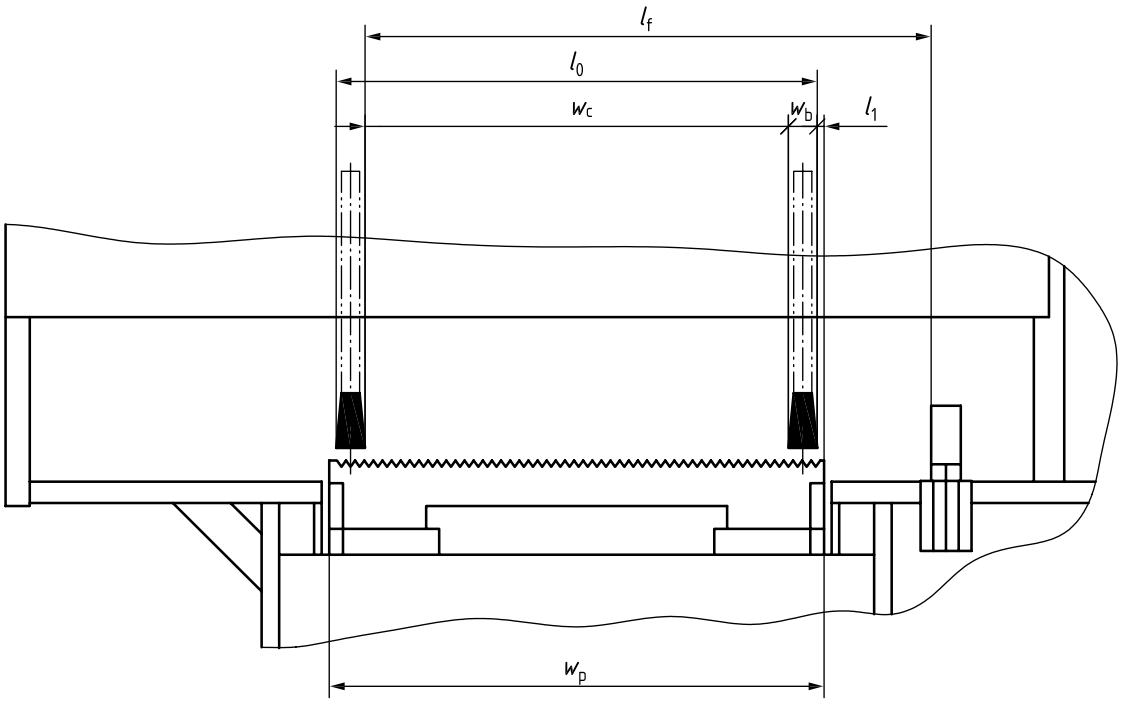
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Figure 1 — Examples of machines configurations

3.2
anti-splinter finger
moveable element mounted in a row at the infeed of the machine to prevent the ejection of splinters

3.3
cutting width capacity
w_c
maximum distance between inner cutting surfaces of the two outside saw blades mounted at extreme positions on the saw spindle

Note 1 to entry: See w_c in Figure 2.



Key
l_f maximum distance between saw blade and fence
l_l distance between the inner surface of the outside saw blade and the lateral limitation given by the feed system
l_o maximum distance between the two outer cutting planes of the outside saw blades
w_b cutting width of the saw blade
w_c cutting width capacity
w_p width of the workpiece conveyor

Figure 2 — Cutting width capacity

3.4
manual loading
placement of the workpiece by the operator directly onto the machine integrated feed, for example, rotating feed rollers or chain conveyor, without any intermediate loading device to receive and transfer the workpiece from the operator to the integrated feed

3.5
manual unloading
removal of the workpiece by the operator directly from the machine outfeed, without any intermediate unloading device to receive and transfer the workpiece from the machine outfeed to the operator

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