



SLOVENSKI STANDARD
oSIST prEN ISO 19085-13:2023
01-februar-2023

Lesnoobdelovalni stroji - Varnost - 13. del: Večlistne krožne žage za vzdolžni rez z ročnim podajanjem in/ali odvzemanjem (ISO/DIS 19085-13:2022)

Woodworking machines - Safety - Part 13: Multi-blade rip sawing machines with manual loading and/or unloading (ISO/DIS 19085-13:2022)

Holzbearbeitungsmaschinen - Sicherheit - Teil 13: Mehrblattkreissägemaschinen für Längsschnitt mit Handbeschickung und/oder Handentnahme (ISO/DIS 19085-13:2022)

Machines à bois - Sécurité - Partie 13: Déligneuses multi-lames à chargement et/ou déchargement manuel (ISO/DIS 19085-13:2022)

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79.120.10	Lesnoobdelovalni stroji	Woodworking machines

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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*

ICS: 79.120.10; 13.110

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Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Safety requirements and measures for controls	4
4.1 Safety and reliability of control systems.....	4
4.2 Control devices.....	4
4.3 Start.....	6
4.3.1 Direct start.....	6
4.3.2 Start via control power-on.....	6
4.4 Safe stops.....	6
4.4.1 General.....	6
4.4.2 Normal stop.....	6
4.4.3 Operational stop.....	6
4.4.4 Emergency stop.....	6
4.5 Braking function of tools.....	6
4.6 Mode selection.....	6
4.6.1 Pressure shoe/board cutting mode.....	6
4.6.2 Cleaning mode.....	7
4.6.3 Powered axial adjustment mode.....	7
4.7 Tool speed changing.....	8
4.7.1 Spindle speed changing by changing belts on the pulleys.....	8
4.7.2 Spindle speed changing by incremental speed change motor.....	8
4.7.3 Infinitely variable speed by frequency inverter.....	8
4.8 Failure of any power supply.....	8
4.9 Manual reset control.....	8
4.10 Standstill detection and monitoring.....	8
4.11 Machine moving parts speed monitoring.....	8
4.12 Time delay.....	8
4.13 Teleservice.....	8
4.14 Powered adjustments when guards are closed.....	8
5 Safety requirements and measures for protection against mechanical hazards	9
5.1 Stability.....	9
5.2 Risk of break-up during operation.....	9
5.3 Tool and tool fixing design.....	9
5.3.1 General.....	9
5.3.2 Spindle locking.....	9
5.3.3 Circular saw blade fixing device.....	9
5.3.4 Flanges dimensions for circular saw blades.....	9
5.4 Braking.....	9
5.4.1 Braking of tools.....	9
5.4.2 Maximum run-down time.....	9
5.4.3 Brake release.....	9
5.5 Safeguards.....	10
5.5.1 Fixed guards.....	10
5.5.2 Interlocking moveable guards.....	10
5.5.3 Hold-to-run control.....	10
5.5.4 Two-hand control.....	10
5.5.5 Electro-sensitive protective equipment (ESPE).....	10
5.5.6 Pressure sensitive protective equipment (PSPE).....	10
5.5.7 Enabling control.....	10

ISO/DIS 19085-13:2022(E)

5.6	Prevention of access to hazardous moving parts.....	10
5.7	Impact hazard	11
5.8	Clamping devices.....	12
5.9	Measures against ejection.....	12
5.9.1	General.....	12
5.9.2	Guards materials and characteristics.....	12
5.9.3	Measures against ejection through the infeed opening.....	12
5.9.4	Measures against ejection through the outfeed opening.....	22
5.10	Work-piece support and guide.....	25
6	Safety requirements and measures for protection against other hazards.....	25
6.1	Fire.....	25
6.2	Noise.....	25
6.2.1	Noise reduction at the design stage.....	25
6.2.2	Noise emission measurement.....	25
6.3	Emission of chips and dust.....	25
6.4	Electricity.....	25
6.5	Ergonomics and handling.....	25
6.6	Lighting.....	25
6.7	Pneumatics.....	26
6.8	Hydraulics.....	26
6.9	Electromagnetic compatibility.....	26
6.10	Laser.....	26
6.11	Static electricity.....	26
6.12	Errors of fitting.....	26
6.13	Isolation.....	26
6.14	Maintenance.....	26
6.15	Relevant but not significant hazards.....	26
7	Information for use.....	26
7.1	Warning devices.....	26
7.2	Marking.....	26
7.2.1	General.....	26
7.2.2	Additional marking.....	26
7.3	Instruction handbook.....	27
7.3.1	General.....	27
7.3.2	Additional information.....	27
	Annex A (informative) List of significant hazards.....	29
	Annex B (informative) Performance level required.....	31
	Annex C Stability test.....	32
	Annex D (normative) Test for braking function.....	33
	Annex E (normative) Impact test for guards.....	34
	Annex F (normative) Noise test code.....	35
	Annex G (normative) Test for the anti-splinter system on machines with one chain conveyor.....	38
	Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered.....	42
	Bibliography.....	44

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).

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).

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*, 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 now specifies that machines are intended for continuous production use;
- the list of significant hazards has been moved to new [Annex A](#) (clauses and annexes renumbered);
- Subclause [6.2](#) has been updated and a new full noise test code has been added in [Annex F](#).

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.

ISO/DIS 19085-13:2022(E)

Introduction

The ISO 19085 series of International Standards 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.

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 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 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, 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 subclauses of ISO 19085-1. Each part contains replacements and additions to the common requirements given in ISO 19085-1.

All parts of the ISO 19085 series have the same structure, so that reference to ISO 19085-1 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.

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 and/or unloading (defined in 3.1) capable of continuous production use, hereinafter referred to also as “machines”, designed to cut solid wood and materials 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 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.

It is not applicable to machines:

- with all saw blades spindles mounted below the workpiece support/level only (to include it, please provide requirements to DIS stage);
- 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 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 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*

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*

EN 614-1:2006+A1:2009, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

ISO/DIS 19085-13:2022(E)

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, in ISO 13849-1:2015, in 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 <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 work-piece 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 arranged so that they are all mounted above the work-piece support or mounted both above and below the work-piece support.

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 are shown in a), b), c); double-spindle machines in d), e), f), one above and one below the work-piece level.
- Work-piece support and integrated feed: by feed rollers shown in a), d); by chain conveyor in b), c), e); by a combination of the two in f).

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
 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 [Figure 2](#), key w_c .

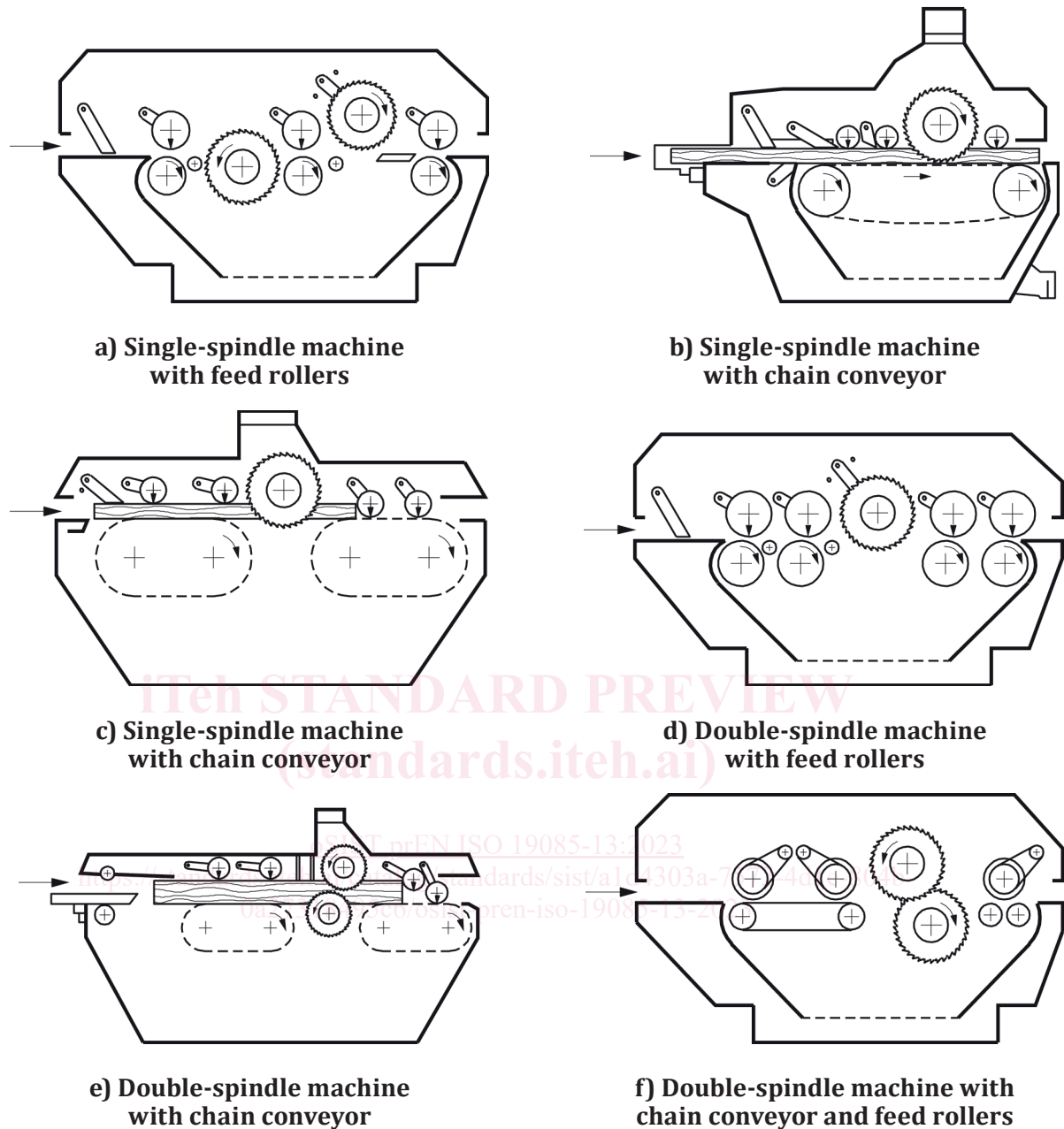


Figure 1 — Examples of machines configurations

3.4

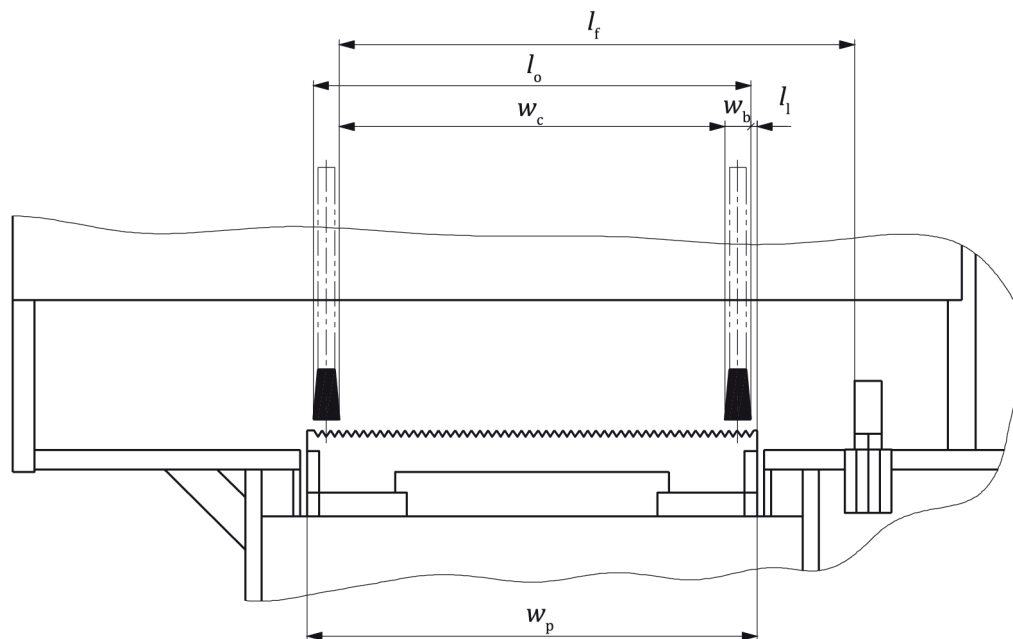
manual loading

placement of the work-piece by the operator directly onto the machine integrated feed, e.g. rotating feed rollers or chain conveyor, without any intermediate loading device to receive and transfer the work-piece from the operator to the integrated feed

3.5

manual unloading

removal of the work-piece by the operator directly from the machine outfeed, without any intermediate unloading device to receive and transfer the work-piece from the machine outfeed to the operator

**Key**

- l_f maximum distance between saw blade and fence
- l_1 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 work-piece conveyor

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Figure 2 — Cutting width capacity

4 Safety requirements and measures for controls

4.1 Safety and reliability of control systems

ISO 19085-1:2021, 4.1, applies with the following additions.

[Annex B](#) provides an informative summary table of Performance Levels (PL) required in 4 and 5 for each safety function.

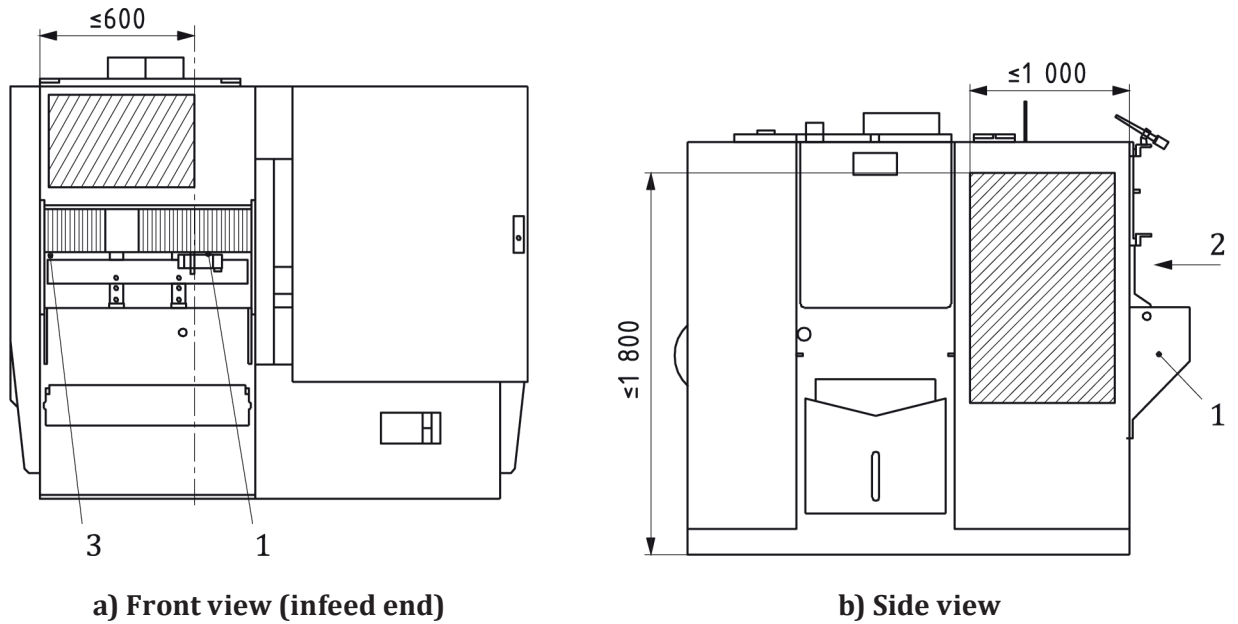
4.2 Control devices

ISO 19085-1:2021, 4.2, applies with the following additions.

Hand operated control devices for start and stop of the drives for the saw spindles, for the feed and for the height adjustment of the upper roller support shall be positioned in one or more of the shaded areas shown in [Figure 3](#) or on a moveable control panel at the loading position.

Emergency stop control devices shall be positioned at the infeed end and, on machines with manual unloading, at the outfeed end of the machine, not more than 600 mm from the opening edges (see [Figure 4](#)), and in addition on any moveable control panel.

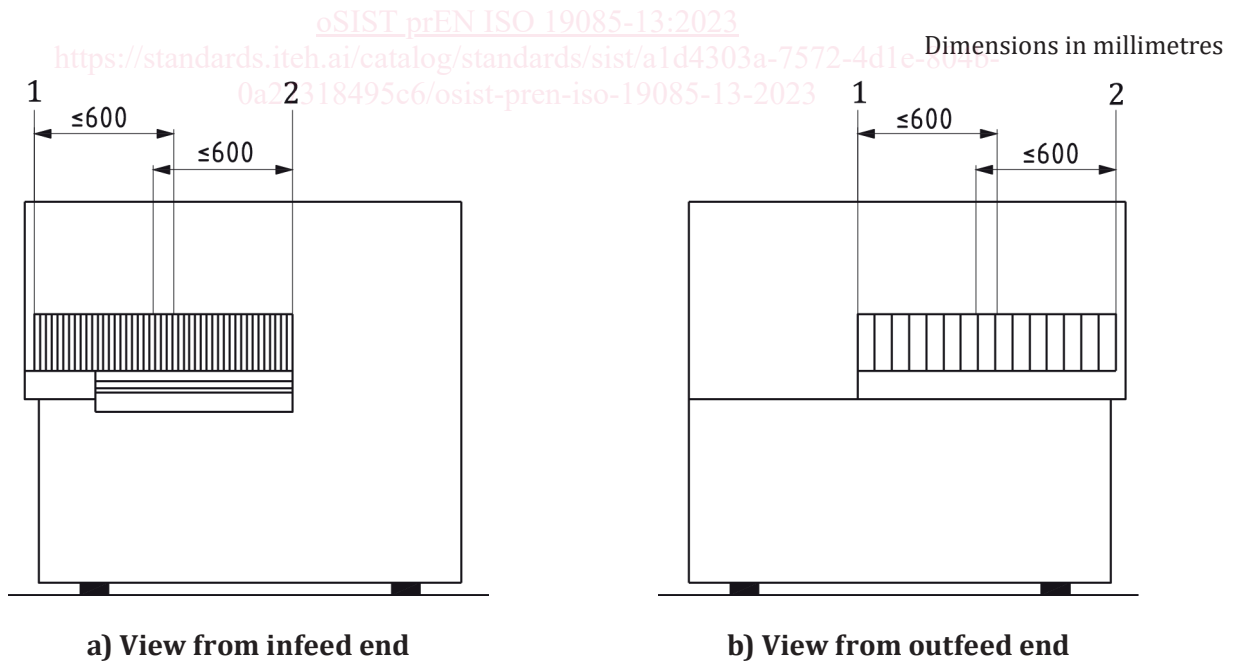
Dimensions in millimetres



Key

- 1 infeed table
- 2 feed direction
- 3 left side of the infeed opening

Figure 3 — Position of control devices except emergency stop



Key

- 1 left edge of infeed/outfeed opening
- 2 right edge of infeed/outfeed opening

Figure 4 — Position of emergency stop control devices