



**International  
Standard**

**ISO 19085-11**

**Woodworking machines — Safety —  
Part 11:  
Combined machines**

*Machines à bois — Sécurité —*

*Partie 11: Machines combinées*

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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](http://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 not 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](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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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](http://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 19085-11:2020), 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 a new [Annex A](#);
- [subclause 6.2](#) has been updated;
- a new noise test code has been specified 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](http://www.iso.org/members.html).

## 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 (e.g. regulators, accident prevention organisations, market surveillance).

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 (as defined in ISO 12100:2010), 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 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, in this document, safety requirements are referenced to the relevant subclauses of ISO 19085-1:2021, ISO 19085-5:2024, ISO 19085-6:2024, ISO 19085-7:2024 and ISO 19085-9:2024 to avoid repetition and reduce their length.

Specific subclauses and annexes in this document without a correspondent in ISO 19085-1:2021, ISO 19085-5:2024, ISO 19085-6:2024, ISO 19085-7:2024 and ISO 19085-9:2024 are indicated by the introductory sentence: "Subclause (or annex) specific to this document."

[Clauses 1](#) to [3](#) are specific to each part and, therefore are distinct from ISO 19085-1:2021, Clauses 1 to 3.

# Woodworking machines — Safety —

## Part 11: Combined machines

### 1 Scope

This document specifies the safety requirements and measures for combined woodworking machines (defined in 3.1), capable of continuous production use, with manual loading and unloading of the workpiece and hereinafter referred to also as “machines”.

The machines are designed to cut solid wood and material with similar physical characteristics to wood (see ISO 19085-1:2021, 3.2).

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

This document applies to machines also equipped with the devices or additional working units listed in the Scopes of ISO 19085-5:2024, ISO 19085-6:2024, ISO 19085-7:2024 and ISO 19085-9:2024.

This document does not apply to:

- a) machines incorporating a planing unit and a mortising device only;

NOTE Machines incorporating a planing unit and a mortising device only are dealt with in ISO 19085-7:2024.

- b) combined machines incorporating a band saw unit;

- c) machines with a mortising unit with a separate drive other than the planing unit drive;

- d) machines intended for use in potentially explosive atmosphere;

- e) machines manufactured before the publication of this document.

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

ISO 19085-5:2024, *Woodworking machines — Safety — Part 5: Dimension saws*

ISO 19085-6:2024, *Woodworking machines — Safety — Part 6: Single spindle vertical moulding machines (toupie)*

ISO 19085-7:2024, *Woodworking machines — Safety — Part 7: Surface planing, thickness planing, combined surface/thickness planing machines*

ISO 19085-9:2024, *Woodworking machines — Safety — Part 9: Circular saw benches (with and without sliding table)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100:2010, ISO 19085-1:2021, ISO 19085-5:2024, ISO 19085-6:2024, ISO 19085-7:2024, ISO 19085-9:2024 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

##### **combined machine**

machine incorporating two or three separately usable working units, among a *sawing unit* (3.2), a *moulding unit* (3.5) and a *planing unit* (3.6)

Note 1 to entry: Workpiece feed is primarily by hand, but the machine can also have devices to connect to demountable power feed units.

Note 2 to entry: The sawing unit and the moulding unit can work simultaneously.

Note 3 to entry: Examples of such machines are given in [Figures 2, 3, 4](#) and [5](#).

#### 3.2

##### **sawing unit**

*dimension saw unit* (3.3) or *table saw unit* (3.4), incorporated in a *combined machine* (3.1)

#### 3.3

##### **dimension saw unit**

dimension saw incorporated in a *combined machine* (3.1)

Note 1 to entry: For the definition of a dimension saw, also called a sliding table circular sawing machine, see ISO 19085-5:2024, 3.1.

#### 3.4

##### **table saw unit**

table saw incorporated in a *combined machine* (3.1)

Note 1 to entry: For the definition of a table saw, also called a circular saw bench, see ISO 19085-9:2024, 3.1.

#### 3.5

##### **moulding unit**

single spindle vertical moulding machine incorporated in a *combined machine* (3.1)

Note 1 to entry: For the definition of a single spindle vertical moulding machine, see ISO 19085-6:2024, 3.1.

#### 3.6

##### **planing unit**

combined surface/thickness planing machine incorporated in a *combined machine* (3.1)

Note 1 to entry: For the definition of a combined surface/thickness planing machine, see ISO 19085-7:2024, 3.4.

#### 3.7

##### **tenoning-sawing mode**

use of the *sawing unit* (3.2) and *moulding unit* (3.5) simultaneously to produce tenons

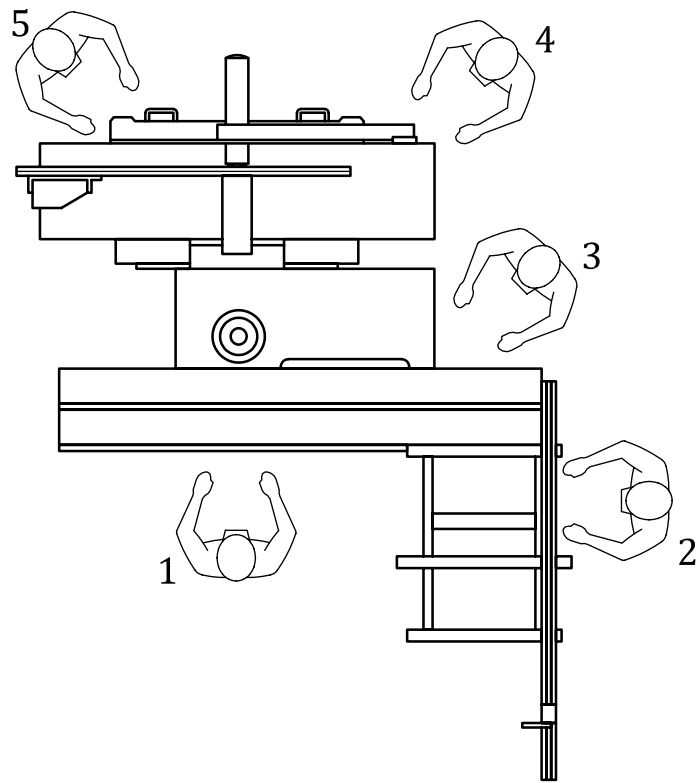
#### 3.8

##### **workstation**

position of the operator at the machine to operate a working unit

Note 1 to entry: *Combined machines* (3.1) have more than one workstation depending on the number of integrated working units (see [Figure 1](#)).

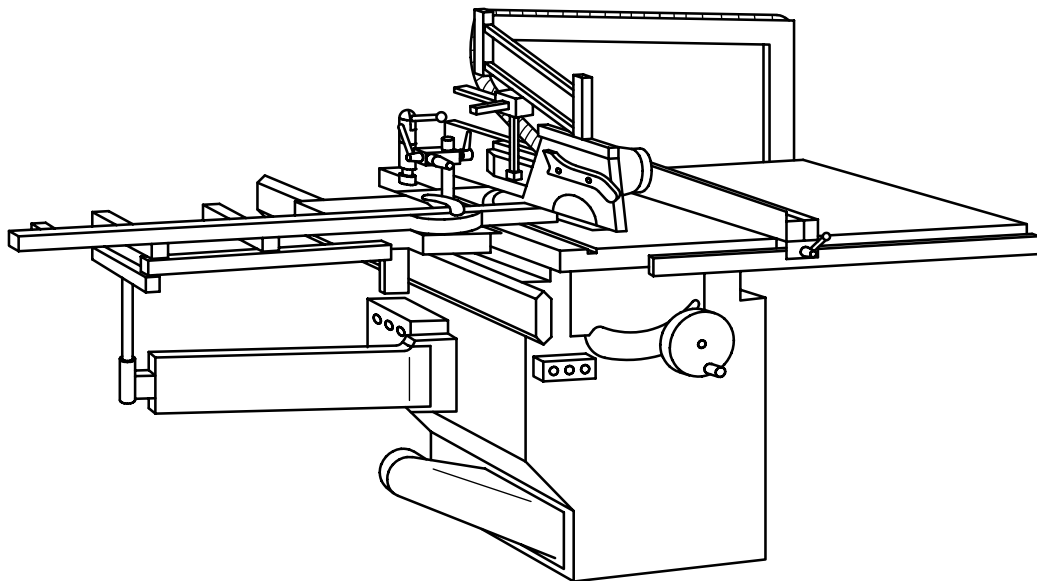




**Key**

- 1 workstation during moulding
- 2 workstation during sawing
- 3 alternative workstation during sawing
- 4 workstation during thickness planing
- 5 workstation during surface planing

**Figure 1 — Typical workstations**



**Figure 2 — Example of a machine with table saw unit and moulding unit, fitted with a sliding table**

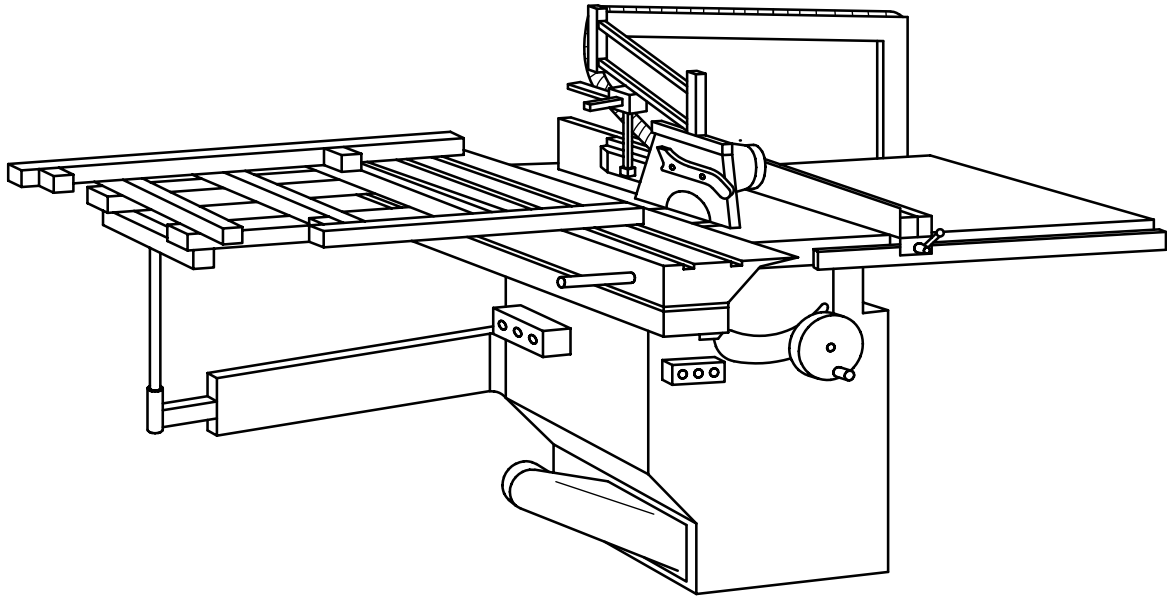


Figure 3 — Example of a machine with dimension saw unit and moulding unit

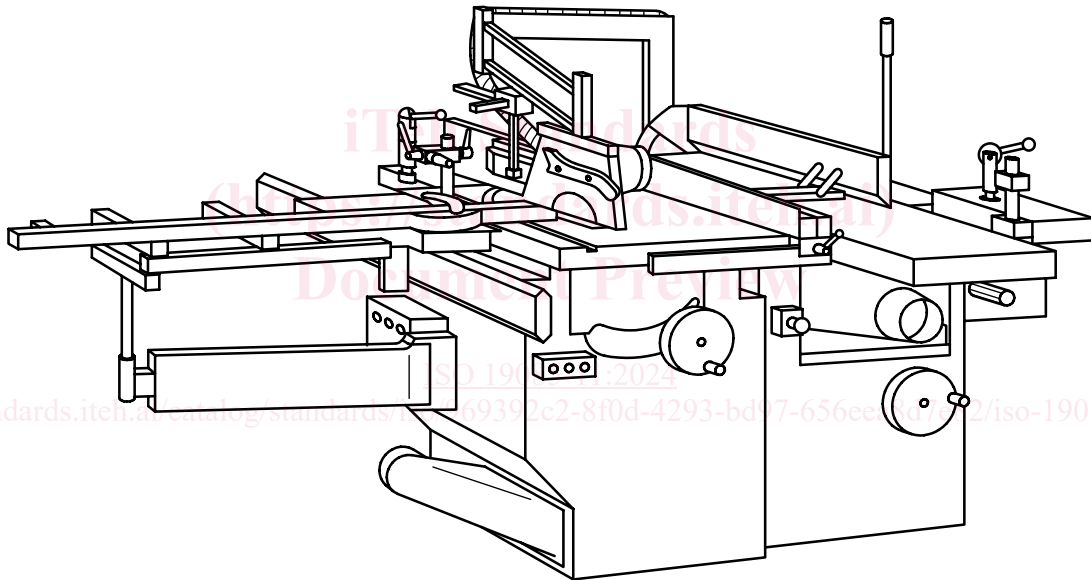
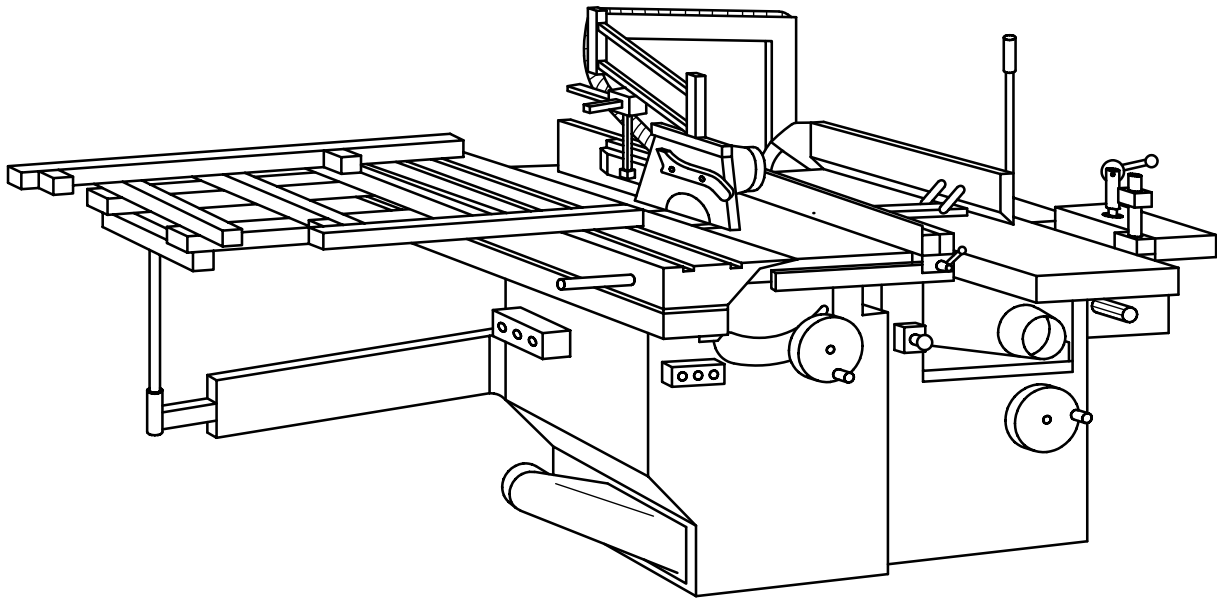


Figure 4 — Example of a machine with table saw unit, moulding unit and planing unit, and with a mortising device fitted with a sliding table



**Figure 5 — Example of a machine with dimension saw unit, moulding unit and planing unit, and with a mortising device**

## 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.

Table B.1 summarizes the performance levels required ( $PL_r$ ) specified in [Clauses 4](#) and [5](#) for each safety function.

### 4.2 Control devices

ISO 19085-11:2024

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For machines incorporating a dimension saw unit, ISO 19085-5:2024, 4.2 applies.

For machines incorporating a table saw unit, ISO 19085-9:2024, 4.2 applies.

For machines incorporating a moulding unit, ISO 19085-6:2024, 4.2 applies.

For machines incorporating a planing unit, ISO 19085-7:2024, 4.2 applies.

As an exception, the machine may be fitted with a single start control device for all tool drives, which shall be positioned together with either:

- the unit selector (see [4.3](#)) at a location on the machine body from which the operator has a good view over the whole machine; or
- the unit selector on a moveable control panel.

Where it is not possible to meet the height requirement of minimum 600 mm, the height for all hand-operated control devices except start, normal stop and emergency stop, may be reduced to at least 500 mm from the floor level.

The main power switch may be located at a height of at least 500 mm above the floor level. The plug, fixed to the machine where supply disconnection is through a plug/socket combination, may be located at a height of at least 300 mm above the floor level.