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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

# Woodworking machines — Double-end tenoning machines — Nomenclature and acceptance conditions

*Machines à bois — Machines doubles à tenonner — Nomenclature et conditions de réception*



Reference number
ISO 7988 : 1988 (E)

## 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.



International Standard ISO 7988 was prepared by Technical Committee ISO/TC 39, *Machine tools*.



Annex A of this International Standard is for information only.



Printed in Switzerland

# Woodworking machines — Double-end tenoning machines — Nomenclature and acceptance conditions

## 1 Scope

This International Standard specifies the nomenclature appropriate to each part of the machine and, with reference to ISO 230-1, the geometrical and practical tests for double-end tenoning machines, and gives the corresponding permissible deviations which apply to machines of general purpose use and normal accuracy.

NOTE — In addition to terms used in the three official ISO languages (English, French and Russian), this International Standard gives the equivalent terms in the German, Spanish, Italian and Swedish languages; these are published under the responsibility of the member bodies for Germany, F.R. (DIN), Spain (AENOR), Italy (UNI) and Sweden (SIS). However, only the terms given in the official languages can be considered as ISO terms.

This International Standard deals only with the verification of the accuracy of the machine. It does not apply to the testing of the running of the machine (vibrations, abnormal noises, stick-slip motion of the components, etc.), nor to its characteristics (speeds, feeds, etc.) which should generally be checked before the accuracy is tested.

This International Standard applies to those machines designated by the number 82.2 in ISO 7984 [1].

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 230-1 : 1986, *Acceptance code for machine tools — Part 1: Geometric accuracy of machines operating under no-load or finishing conditions.*



## 3 Preliminary remarks

**3.1** In this International Standard all dimensions and permissible deviations are expressed in millimetres.

**3.2** To apply this International Standard, reference should be made to ISO 230-1, especially for installation of the machine before testing, the warming up of the main spindle and other moving parts, and the description of the measuring methods. The measuring instruments shall not permit measurement errors over 1/3 of the checked tolerances.

**3.3** The sequence in which the geometrical tests are given is related to the sub-assemblies of the machine, and this in no way defines the practical order of testing. In order to make mounting of instruments and gauging easier, tests may be applied in any order.

**3.4** When inspecting a machine, it is not always possible or necessary to carry out all the tests given in this International Standard.

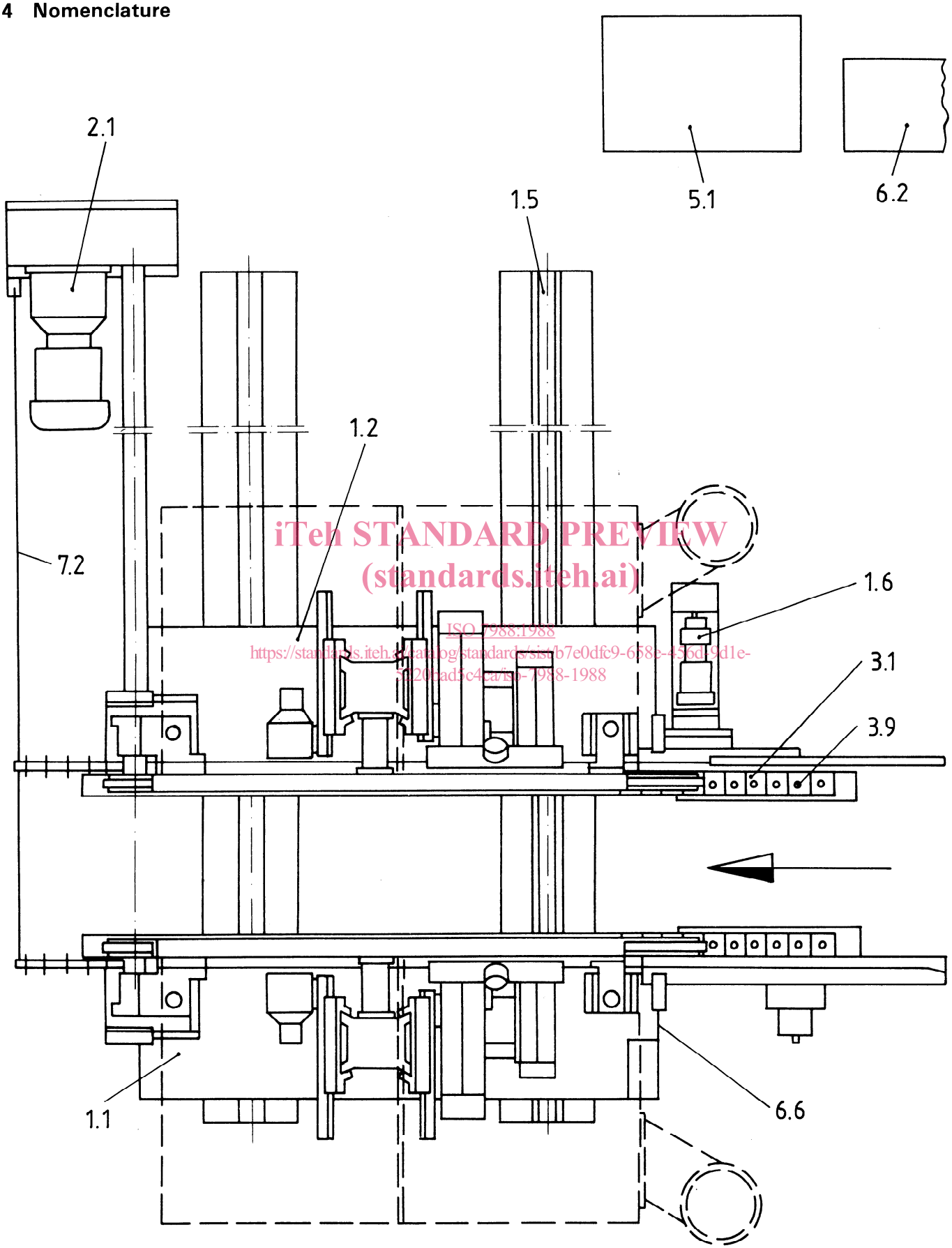
**3.5** It is up to the user to choose, in agreement with the manufacturer, those tests relating to the properties which are of interest to him, but these tests shall be clearly stated when ordering a machine.

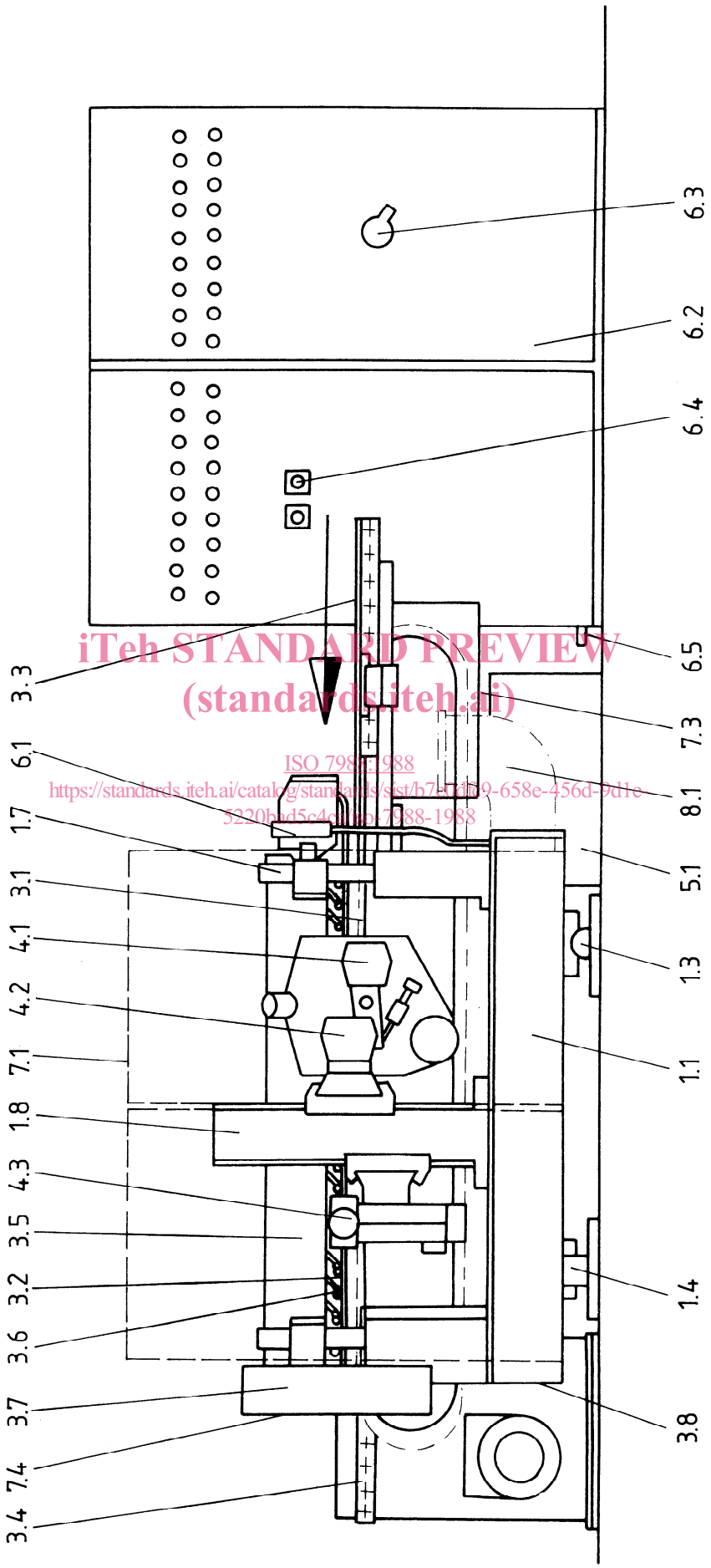
**3.6** A movement is longitudinal when it takes place in the working direction of the piece.

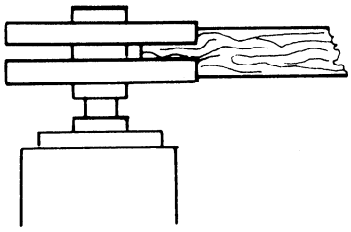
**3.7** When establishing the tolerance for a measuring range different from that given in this International Standard (see subclause 2.311 in ISO 230-1), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

1) ISO 7984 : 1988, *Woodworking machines — Technical classification of woodworking machines and auxiliary machines for woodworking.*

## 4 Nomenclature







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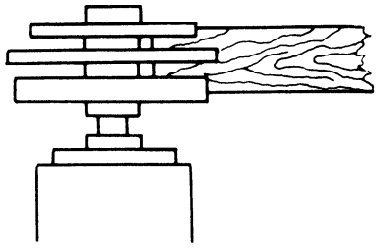

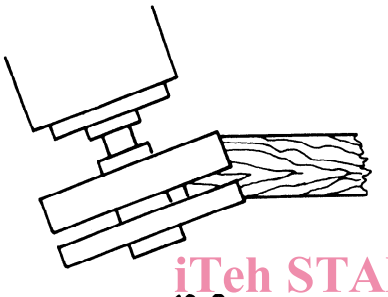

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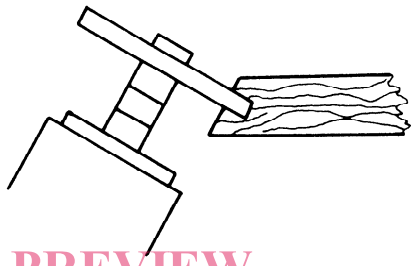

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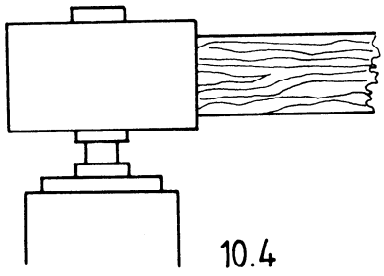

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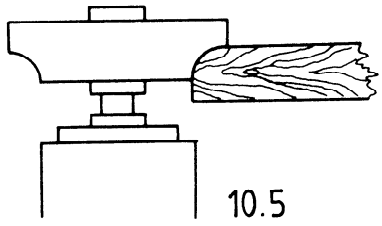

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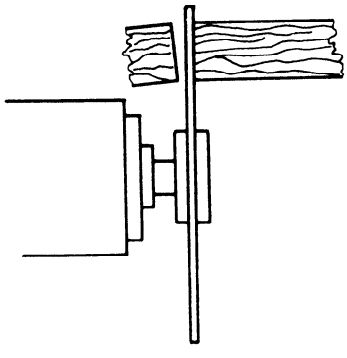

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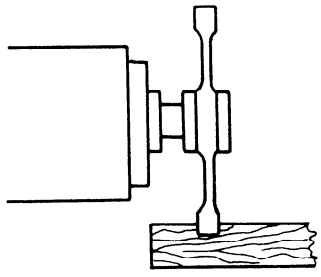
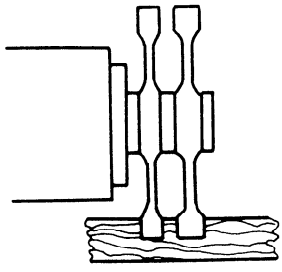


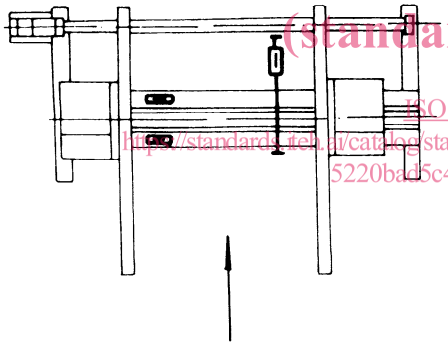
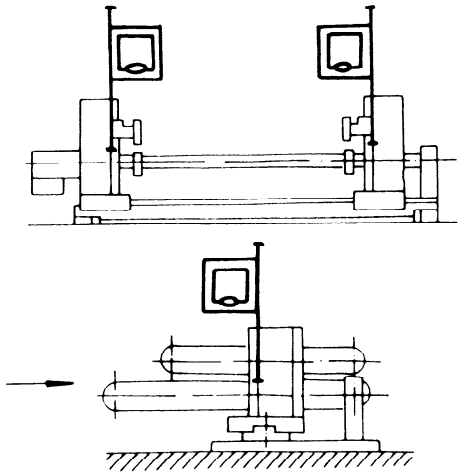


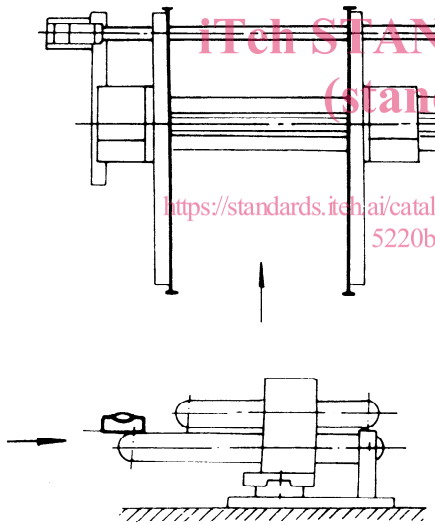
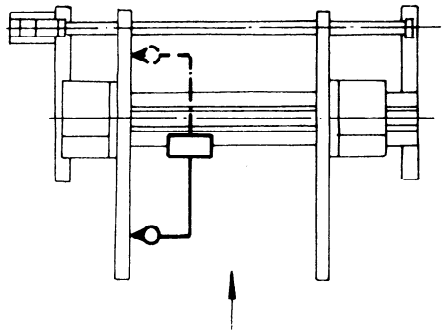
10.7

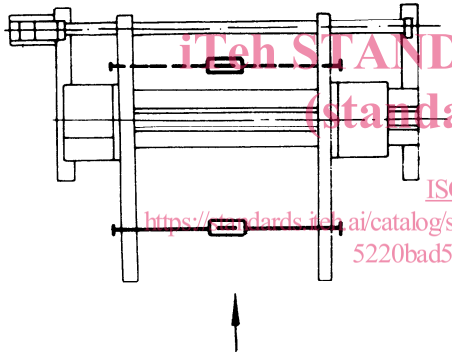
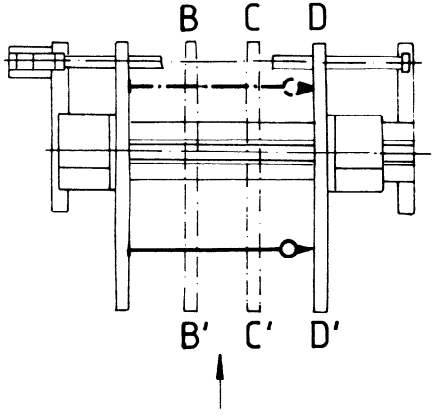
| Reference | English | French | Russian |
|---|---|---|---|
| | **Double-end tenoning machine** | **Machine double à tenonner** | **Станок шипорезный двухсторонний** |
| 1 | **Framework** | **Ossature** | **Каркас** |
| 1.1 | Main frame saddle (fixed) | Bâti principal — montant fixe | Главная станина, неподвижная |
| 1.2 | Main frame saddle (adjustable) | Bâti principal — montant mobile | Главная станина, подвижная |
| 1.3 | Bed — guide-rail (front) | Banc — crémaillère ronde | Стол — круглая зубчатая рейка |
| 1.4 | Bed — guide-rail (rear) | Banc — crémaillère plate | Стол — плоская зубчатая рейка |
| 1.5 | Traverse screw(s) | Système fileté de déplacement transversal | Поперечный ходовой винт |
| 1.6 | Traverse motor | Moteur de déplacement transversal | Двигатель поперечного перемещения |
| 1.7 | Support for top holddown pressure assembly | Support de presseurs supérieurs | Суппорт верхнего прижима |
| 1.8 | Cutter head column | Montant porte-unités | Колонна рабочей головки |
| 2 | **Feed of workpiece and/or tools** | **Déplacement des pièces et/ou outils** | **Подача деталей и/или инструмента** |
| 2.1 | Feed drive | Moteur d'entraînement | Двигатель подачи |
| 3 | **Workpiece support, clamp and guide** | **Support, maintien et guidage des pièces** | **Опора, крепление и направление деталей** |
| 3.1 | Chain feed | Chaîne d'alimentation | Направляющая цепь |
| 3.2 | Top pressure belt (or chain) | Chaîne de pressage supérieur | Ремень (или цепь) верхнего прижима |
| 3.3 | Infeed fence | Guide d'alimentation | Направляющая цепи |
| 3.4 | Outfeed support | Guide de sortie | Выходная направляющая |
| 3.5 | Top pressure beam | Poutre de pressage supérieur | Балка верхнего прижима |
| 3.6 | Top pressure wheel assembly | Levier de rouleau | Рукоятка прижимного ролика |
| 3.7 | Drive for top pressure belt (or chain) | Entraînement du pressage supérieur | Привод верхнего прижима |
| 3.8 | Height adjustment for top pressure assembly | Réglage vertical du presseur supérieur | Вертикальная регулировка верхнего прижима |
| 3.9 | Feed dogs | Taquets | Фиксаторы |
| 4 | **Tool-holders and tools** | **Porte-outils et outils** | **Державки инструмента и инструмент** |
| 4.1 | Scoring cutter | Unité d'incisage | Головка прорезной пилы |
| 4.2 | Hogging head and/or trimsaw | Unité de déchiquetage | Зачистная головка |
| 4.3 | Vertical milling head (or cope) | Unité de fraisage | Фрезерная головка |
| 5 | **Workhead and tool drives** | **Unité de travail et son entraînement** | **Рабочая головка и ее приводы** |
| 5.1 | Frequency changer | Changeur de fréquence | Преобразователь частоты |
| 6 | **Controls** | **Commandes** | **Управление** |
| 6.1 | Operator's console | Boîte de commande | Пульт управления |
| 6.2 | Electrical enclosure | Armoire électrique | Электрошкаф |
| 6.3 | Master switch | Interrupteur principal | Главный рубильник |
| 6.4 | Frequency changer switch | Commutateur de fréquence | Частотный переключатель |
| 6.5 | Electrical connection | Branchement électrique | Электропроводка |
| 6.6 | Compressed air connection | Branchement air comprimé | Подсоединение сжатого воздуха |
| 7 | **Safety devices** (examples) | **Dispositifs de sécurité** (exemples) | **Предохранительные устройства** (примеры) |
| 7.1 | Sound enclosure | Capot d'insonorisation | Шумозащитный кожух |
| 7.2 | Emergency trip-wire | Fil interrupteur urgence | Провод аварийной остановки |
| 7.3 | Infeed chain guard | Protecteur chaîne alimentation | Защита направляющей цепи |
| 7.4 | Top holddown drive guard | Protecteur-presseur supérieur | Защита верхнего прижима |
| 8 | **Miscellaneous** | **Divers** | **Прочее** |
| 8.1 | Dust exhaust outlet | Buse d'aspiration | Отсасывающий патрубок |
| 9 | (clause free) | (chapitre libre) | (свободный раздел) |
| 10 | **Examples of work** | **Exemples de travail** | **Примеры работы** |
| 10.1 | Coping | Tenonnage simple et double | Двойное или одиночное шипование |
| 10.2 | Angle coping | Tenonnage angulaire | Угловое шипование |
| 10.3 | Angle grooving | Rainurage angulaire | Угловая прорезка канавок |
| 10.4 | Vertical or edge milling | Dressage de chant | Выравнивание кромок |
| 10.5 | Edge profiling | Fraisage de chant | Фрезерование кромок |
| 10.6 | Saw cutting or trimming | Tronçonnage | Торцовка |
| 10.7 | Grooving, single and double | Rainurage simple et double | Одиночная или двойная прорезка канавок |

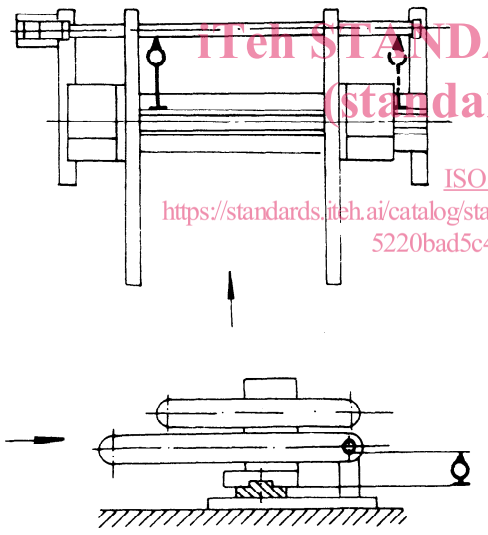
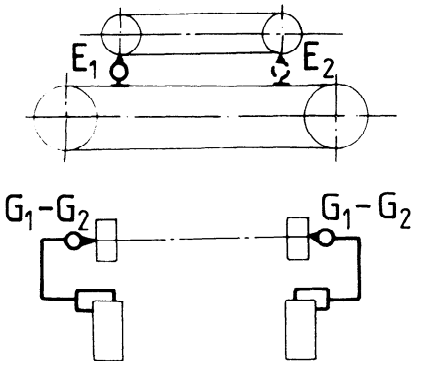
## 5 Acceptance conditions and permissible deviations

### 5.1 Geometrical tests

| No. | Diagram | Object | Permissible deviation | Measuring instruments | Observations and references to the ISO 230-1 acceptance code |
|---|---|---|---|---|---|
| G1 |  | Checking of straightness of the horizontal slides:<br>a) longitudinal straightness<br>b) transverse straightness | a) and b)<br>0,1<br>for a measuring length of 1 000 | Level and straightedge | Subclause 5.22<br>Check every 500. |
| G2 |  | Checking of squareness of the vertical slides to the plane of the horizontal slides | 0,2/1 000 | Level and straightedge | Subclause 5.512.2 |

| No. | Diagram | Object | Permissible deviation | Measuring instruments | Observations and references to the ISO 230-1 acceptance code |
|---|---|---|---|---|---|
| G3 |  | Checking of straightness of the chain-ways | 0,1<br>for a measuring length of 1 000 | Level, straightedge and feeler gauge | Subclause 5.22<br>Check every 500. |
| G4 |  | Checking of squareness of the fixed chain-way with respect to the bed slide | 0,1<br>for a measuring length of 1 000 | Dial gauge and special gauge support | Subclause 5.512.3 |

| No. | Diagram | Object | Permissible deviation | Measuring instruments | Observations and references to the ISO 230-1 acceptance code |
|---|---|---|---|---|---|
| G5 |  | Checking of alignment of the chain-ways | 0,1<br>for a measuring length of 1 000 | Level and straightedge | Subclause 5.442 |
| G6 |  | Checking of parallelism of the chain tracks in the horizontal plane at settings B – B′, C – C′ and D – D′ | 0,1<br>for a measuring length of 1 000 | Slide gauge or dial gauge and special gauge support | Subclause 5.422.2 |

| No. | Diagram | Object | Permissible deviation | Measuring instruments | Observations and references to the ISO 230-1 acceptance code |
|---|---|---|---|---|---|
| G7 |  | Checking of parallelism of the feedshaft to the bed | 0,1<br>for a measuring length of 1 000 | Dial gauge and special gauge support | Subclauses 5.412.31 and 5.412.4 |
| G8 |  | Checking of parallelism of the top pressure belt (or chain-beams) to the feed chain-tracks | $E_1 - E_2$<br>0,5<br>$G_1 - G_2$<br>0,15 | Dial gauge and special gauge support | Subclause 5.422.1 |