M-01-07

International Standard 7945

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Woodworking machines — Single spindle boring machines — Nomenclature and acceptance conditions

Machines à bois — Perceuses monobroche — Nomenclature et conditions de réception

First edition — 1985-06-15

UDC 674.05 : 621.952 **Ref. No. ISO 7945-1985 (E)**

Descriptors : machine tools, woodworking machinery, boring- and milling machines, nomenclature, tests, measurement, accuracy.

Price based on 6 pages

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.

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 7945 was prepared by Technical Committee ISO/TC 39, *Machine tools*.

Printed in Switzerland

INTERNATIONAL STANDARD ISO 7945-1985 (E)

Woodworking machines — Single spindle boring machines — Nomenclature and acceptance conditions

1 Scope and field of application

This International Standard specifies the nomenclature appropriate to each part of the machine and, with reference to ISO/R 230, the geometrical tests for single spindle boring machines, and gives the corresponding permissible deviations which apply to machines for general purpose use and normal accuracy.

NOTE — In addition to terms used in two of the three official ISO languages (English and French), this International Standard gives in the annex the equivalent terms in German, Italian and Swedish; these have been included at the request of Technical Committee ISO/TC 39 and are published under the responsibility of the member bodies for Germany, F.R. (DIN), Italy (UNI) and Sweden (SIS). However, only the terms and definitions given in the official languages can be considered as ISO terms and definitions.

This International Standard deals only with the verification of 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 testing accuracy.

This International Standard does not impose any practical test. For single spindle boring machines, practical tests should be exceptions and have to be stated in a previous agreement between the producer and the user.

2 Reference

ISO/R 230, *Test code for machine tools.*

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/R 230, especially for installation of the machine before testing, the warming up of the main spindle of the machine and other moving parts, and description of measuring methods. The measuring instruments shall not permit 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 or gauging easier, tests may be applied in any order.

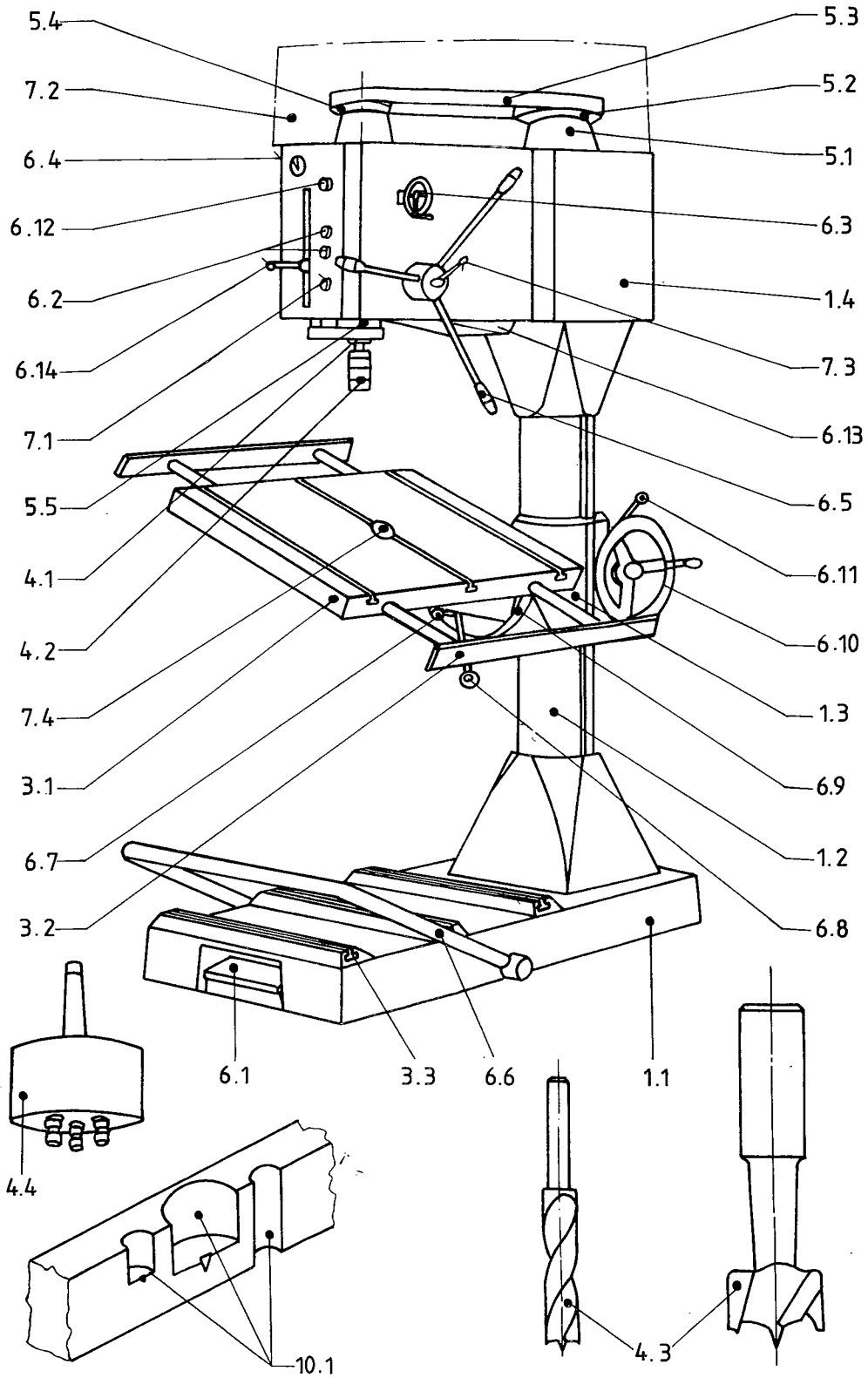
3.4 When inspecting a machine, it is not always possible or necessary to carry out all the tests given in this International Standard.

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 are to be clearly stated when ordering a machine.

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

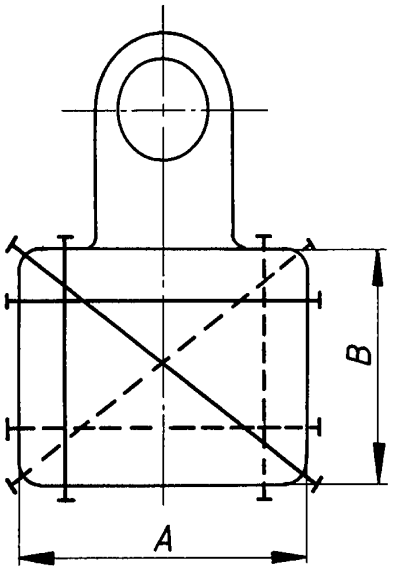
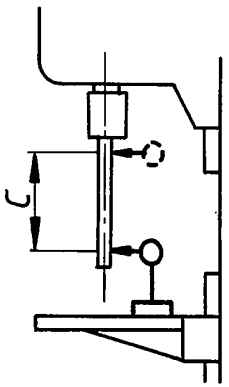
3.7 When establishing the tolerance for a measuring range different from that given in this International Standard (see 2.311 in ISO/R 230), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

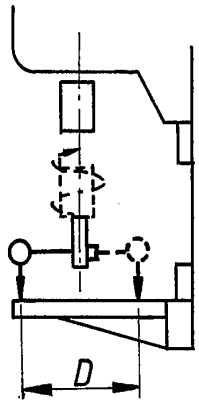
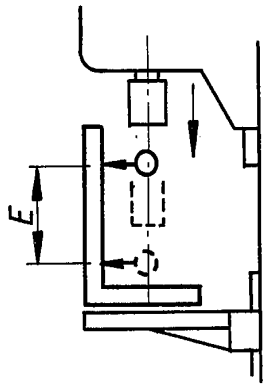
4 Nomenclature



Reference	English	French
	Single spindle boring machine	**Perceuse monobroche**
1	**Framework**	**Ossature**
1.1	Base	Socle
1.2	Column	Colonne
1.3	Support	Support
1.4	Head	Tête
2	**Feed of workpiece and/or tools**	**Déplacement des pièces et/ou outils**
3	**Workpiece support clamp and guide**	**Support, maintien et guidage des pièces**
3.1	Table	Table
3.2	Table extension	Allonge de table
3.3	Supports on column base	Taques sur socle
4	**Toolholders and tools**	**Porte-outils et outils**
4.1	Drilling spindle	Broche de perçage
4.2	Drilling chuck	Mandrin de perçage
4.3	Drill	Mèche
4.4	Multispindle end	Embout multibroches
5	**Workheads and tool drives**	**Unité de travail et son entraînement**
5.1	Motor	Moteur
5.2	Motor pulley	Poulie du moteur
5.3	Drive belt	Courroie d'entraînement
5.4	Spindle pulley	Poulie de broche
5.5	Spindle sleeve	Douille de broche
6	**Controls**	**Commandes**
6.1	Foot operated switch	Commutateur au pied
6.2	Hand operated switch	Commutateur manuel
6.3	Speed adjustment control	Commande de réglage des vitesses
6.4	Speed indicator	Indicateur de vitesses
6.5	Hand adjusted spindle travel operation	Commande de descente manuelle de broche
6.6	Foot adjusted spindle travel operation	Pédale de commande de descente de broche
6.7	Positioning pin for table — horizontal	Goupille de positionnement de la table horizontal
6.8	Table clamping lever	Levier de blocage de la table
6.9	Graduated scale	Échelle graduée
6.10	Handwheel for adjusting table height	Commande de réglage en hauteur de la table
6.11	Clamping lever to table height	Levier de blocage en hauteur de la table
6.12	Light switch	Interrupteur de lampe d'éclairage
6.13	Light	Lampe
6.14	Drill depth adjuster	Réglage de la profondeur de perçage
7	**Safety devices** (examples)	**Dispositifs de sécurité** (exemples)
7.1	Emergency stop	Interrupteur d'urgence
7.2	Hood	Capot
7.3	Cut-out lever (for use when drilling with foot pedal)	Levier de débrayage (perçage par pédale)
7.4	Table insert (replaceable)	Rondelle de table en bois (interchangeable)
8	**Miscellaneous**	**Divers**
9	**Free**	**Libre**
10	**Examples of work**	**Exemples de travail**
10.1	Blind hole and through hole	Trou borgne et trou débouchant

5 Acceptance conditions and permissible deviations — Geometrical tests

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G1	 A = length of the table B = width of the table	Checking of flatness of the table : *a)* longitudinal straightness *b)* transverse straightness *c)* diagonal straightness	*a)* 0,10 for $A \leqslant 500$ 0,20 for $A > 500$ *b)* 0,05 for $B \leqslant 200$ 0,10 for $B > 200$ *c)* 0,15 for $A \leqslant 500$ 0,30 for $A > 500$	Straightedge and gauges	Clause 5.322
G2		Measuring of the run-out of the spindle	0,35 for $C = 150$	Dial gauge and test mandrel	Clause 5.612.3

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references in test code ISO/R 230
G3		Checking of squareness of the spindle axis to the table surface	0,30/400*	Dial gauge	Clause 5.512.42 * Distance D
G4		Checking of squareness of the spindle movement to the table surface	0,30/150*	Dial gauge and steel square	Clause 5.522.2 * Distance E

Annex

Equivalent terms

Reference	German	Italian	Swedish
	Einspindelige Universal-Bohrmaschine	**Foratrice monomandrino**	**Enspindlig borrmaskin**
1	**Ständer**	**Incastellatura**	**Stativkonstruktion**
1.1	Fuß	Zoccolo	Sockel
1.2	Säule	Colonna	Pelare
1.3	Tischausleger	Supporto	Support
1.4	Kopf	Testa	Huvud
2	**Vorschub von Werkstück und/oder Werkzeug**	**Spostamento dei pezzi e/o degli utensili**	**Matning av arbetsstycke och/eller verktyg**
3	**Werkstückauflage, -Halterung und -Führung**	**Supporto, fissaggio e guida dei pezzi**	**Styrning och fasthållning av arbetsstycke**
3.1	Tisch	Piano di lavoro	Bord
3.2	Tischverbreiterung, ausziehbar	Prolunga di lavoro	Bordförlängning
3.3	Auflagen am Fuß	Sopporto sullo zoccolo	Stödklackar på sockel
4	**Werkzeugträger und Werkzeuge**	**Portautensili ed utensili**	**Verktygshållare och verktyg**
4.1	Bohrspindel	Mandrino	Borrspindel
4.2	Bohrfutter	Bussola portapunta	Borrchuck
4.3	Bohrer	Punta	Borr
4.4	Mehrspindelbohrkopf	Testina multipla	Flerspindligt borrhuvud
5	**Einbauteile und Teile für den Werkzeugantrieb**	**Unità operatrice e suo azionamento**	**Bearbetningsenheter och drivsystem**
5.1	Motor	Motore	Motor
5.2	Motor-Riemenscheibe	Puleggia motore	Remskiva/motor
5.3	Antriebsriemen	Cinghie di trasmissione	Rem
5.4	Spindel-Riemenscheibe	Puleggia mandrino	Remskiva/spindel
5.5	Spindelhülse	Bussola portamandrino	Spindelhylsa
6	**Bedienungs- und Überwachungsorgane**	**Comandi**	**Manöverorgan**
6.1	Schalter, fußbedient	Interruttore a pedale	Strömbrytare (fotmanövrerad)
6.2	Schalter, handbedient	Interruttore a pulsante	Strömbrytare (handmanövrerad)
6.3	Drehzahleinstellung	Regolazione numero giri	Varvtalsreglage
6.4	Drehzahlanzeige	Lettura numero giri	Varvtalsvisare
6.5	Bohrhubbetätigung von Hand	Comando a mano per discesa mandrino	Matningshandtag
6.6	Bohrhubbetätigung mit Fußbügel	Comando a pedale per discesa mandrino	Matningspedal
6.7	Positionierstift für Tisch, horizontal	Perno posizionamento piano di lavoro	Horisontalt positioneringsstift för bordet
6.8	Tisch-Klemmhebel	Leva bloccaggio piano di lavoro orizzontale	Låsspak (för bordet)
6.9	Gradskala	Scala angolare	Gradskala
6.10	Handrad zur Tischhöhenverstellung	Volantino regolazione altezza piano di lavoro	Ratt för höjdreglering
6.11	Klemmhebel zur Tischhöhenverstellung	Leva bloccaggio regolazione altezza piano di lavoro	Låsspak för höjdinställning
6.12	Lampenschalter	Interruttore lampada	Strömbrytare för lampa
6.13	Lampe	Lampada	Lampa
6.14	Bohrtiefenanschlag	Regolazione profondità di foratura	Borrdjupsinställning
7	**Sicherheitseinrichtungen** (Beispiele)	**Dispositivi di sicurezza** (esempi)	**Säkerhetsanordningar** (exempel)
7.1	Notausschalter	Interruttore d'emergenza	Nödstopp
7.2	Riemenschutzhaube	Protezione cinghie	Remskydd
7.3	Ausschalthebel (beim Bohren mit Fußpedal)	Levetta arresto (foratura a pedale)	Frikoppling av matningshandtaget
7.4	Tischeinlage aus Holz (auswechselbar)	Rondella di legno per piano di lavoro (intercambiabile)	Bordinlägg (utbytbart)
8	**Verschiedenes**	**Varie**	**Diverse**
9	**Frei**	**Libero**	**Vakant**
10	**Arbeitsbeispiele**	**Esempi di lavorazione**	**Bearbetningsexempel**
10.1	Sackloch- und Durchgangsbohrungen	Fori ciechi e fori passanti	Bottenhål och genomgående hål