

INTERNATIONAL STANDARD

ISO
7957

First edition
1987-08-15



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

Woodworking machines — Radial circular saws — Nomenclature and acceptance conditions

Machines à bois — Machines à scier circulaires, radiales — Nomenclature et conditions de réception

STANDARDSISO.COM : Click to view the full PDF of ISO 7957:1987

Reference number
ISO 7957:1987 (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.

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 7957 was prepared by Technical Committee ISO/TC 39, *Machine tools*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

STANDARDSISO.COM : Click to view the full PDF of ISO 7957:1987

Woodworking machines — Radial circular saws — 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 230-1, the geometrical tests for radial circular saws, and gives the corresponding permissible deviations which apply to machines of general purpose use and normal accuracy, with carriage travel up to 800 mm. For machines with carriage travel over 800 mm, acceptance conditions and permissible deviations shall be agreed between user and manufacturer.

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 in an annex; 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), Spain (IRANOR), 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 does not impose any practical test. For radial circular saws, practical tests are an exception and need be performed only where there is prior agreement between the manufacturer and the user.

This International Standard applies to those machines designated by the number 12.131.122 in ISO 7984.

The annex does not form an integral part of this International Standard.

2 References

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

ISO 7984, *Woodworking machines — Technical classification of woodworking machines and auxiliary machines for wood-working.*

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.

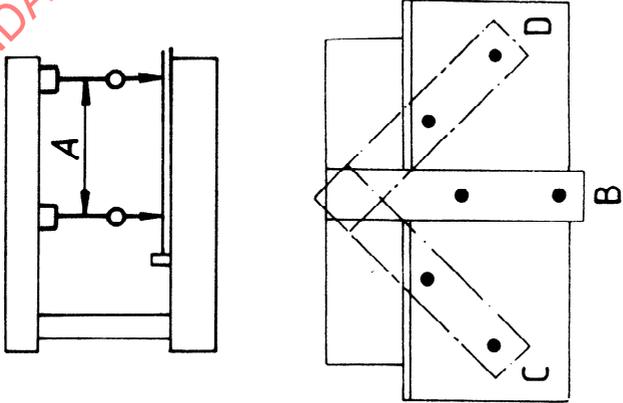
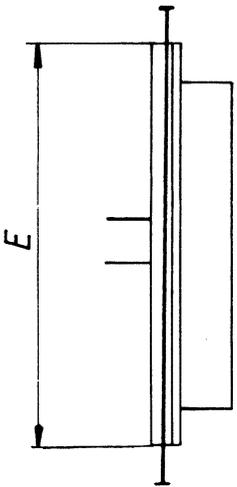
3.7 When establishing the tolerance for a measuring range different from that given in this International Standard (see subclause 2.311 in ISO 230-1), it should be taken into consideration that the minimum value of the tolerance is 0,01 mm.

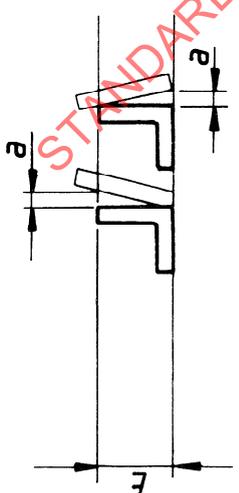
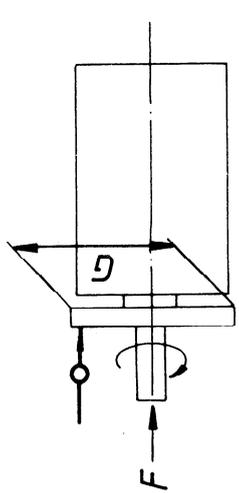
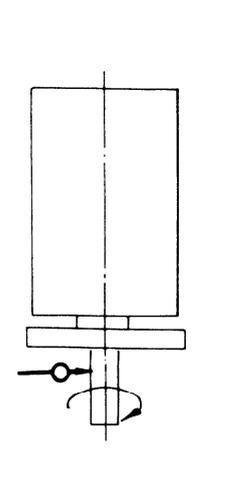
Reference	English	French	Russian
	Radial circular saws	Machines à scier circulaires, radiales	Радиальнопильные станки с круглой пилой
1	Framework	Ossature	Каркас
1.1	Table support	Tablier	Опора стола
1.2	Pillar	Colonne	Колонна
1.3	Arm	Bras	Консоль
1.4	Base	Pied	Стойка
2	Feed of workpiece and/or tools	Déplacement des pièces et/ou outils	Подача деталей и/или инструмента
2.1	Carriage	Chariot	Каретка
2.2	Slide rods	Barre de roulement	Направляющий стержень
2.3	Rollers	Galet de roulement	Ролики
2.4	Ball bearings	Roulement à billes	Роликовый подшипник
2.5	Eccentric pin for roller	Axe excentré de galet	Эксцентриковая ось ролика
2.6	Plain pin	Axe simple de galet	Нормальная ось
3	Workpiece support, clamp and guide	Support, maintien et guidage des pièces	Опора, крепление и направление деталей
3.1	Wooden table	Table en bois	Деревянный стол
3.2	Fence	Guide butée	Направляющая
3.3	Table extension	Allonge de table	Удлинитель стола
4	Tool-holders and tools	Porte-outils et outils	Державки инструмента и инструмент
4.1	Sawblade	Lame	Пильный диск
5	Workhead and tool drives	Unité de travail et son entraînement	Рабочая головка и привод инструмента
5.1	Sawhead	Tête porte-lame	Оправка пильного диска
5.2	Saw collars	Flasque de la lame	Фланец пильного диска
5.3	Saw spindle locking screw	Vis de serrage	Пильный шпindel и крепежная гайка
5.4	Motor	Moteur	Двигатель
5.5	Shaft	Arbre	Вал
6	Controls	Commandes	Управление
6.1	Stop/start switch	Commutateur à gâchette	Пусковая кнопка
6.2	Pull-over handle	Poignée du mouvement de la tête	Рукоятка движения головки
6.3	Carriage lock	Blocage du chariot	Блокировка каретки
6.4	Head swivel lock	Levier de blocage	Рукоятка блокировки
6.5	Table levelling screw	Vérin de mise à niveau de la table	Винт нивелировки стола
6.6	Head vertical adjustment :	Commande de réglage vertical de la table :	Рукоятка вертикальной регулировки стола :
6.6.1	Sprocket and chain reduction for 6.6	Pignon et chaîne de démultiplication de 6.6	Шестерня и цепь уменьшения оборотов 6.6
6.6.2	Right angle gear drive for 6.6	Pignon et renvoi d'angle de 6.6	Механизм установки угла 6.6
6.6.3	Adjustment screw for 6.6	Tige filetée pour monte et baisse de 6.6	Регулировочный винт 6.6
6.7	Arm pivot :	Orientation du bras	Поворот консоли :
6.7.1	Location finger	Doigt de crantage	Фиксирующая рукоятка
6.7.2	Location ring	Disque cranté	Фиксирующее кольцо
6.7.3	Graduated ring	Secteur gradué	Градуированное кольцо
6.8	Head swivel :	Orientation horizontale de la tête porte-lame :	Горизонтальная установка головки пильного диска :
6.8.1	Location finger	Doigt de crantage	Фиксирующий палец
6.8.2	Location ring	Disque cranté	Фиксирующее кольцо
6.8.3	Graduated ring	Secteur gradué	Градуированное кольцо
6.9	Sawblade tilt :	Orientation verticale de la lame :	Установка наклона пильного диска :
6.9.1	Location finger	Doigt de crantage	Фиксирующий палец
6.9.2	Location ring	Disque cranté	Фиксирующее кольцо
6.9.3	Graduated ring	Secteur gradué	Градуированное кольцо
7	Safety devices (examples)	Dispositifs de sécurité (exemples)	Предохранительные устройства (примеры)
7.1	Sawguard visor	Plaque de protection avant	Передняя защитная пластина
7.2	Under sawguard	Protecteur de lame	Защита пильного диска
7.3	Anti-kickback fingers	Linguet anti-recul	Противовозвратный палец
7.4	Saw spindle brake	Dispositif de freinage	Тормозное устройство
8	Miscellaneous	Divers	Прочее
8.1	Dust extraction outlet	Buse d'aspiration	Отсасывающий патрубок
8.2	Graduated rule (ripping)	Règle graduée	Измерительная линейка
9	(clause free)	(chapitre libre)	(свободная глава)

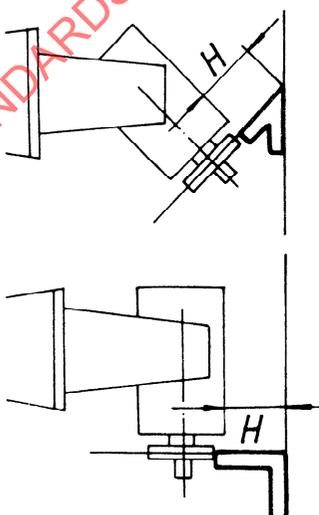
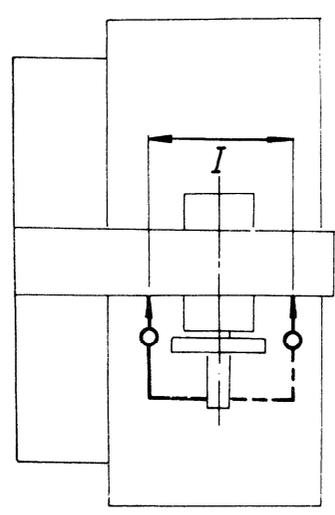
Reference	English	French	Russian
	Radial circular saws	Machines à scier circulaires, radiales	Радиальнопильные станки с круглой пилой
10	Examples of work	Exemples de travail	Примеры работ
10.1	Square cross-cutting	Tronçonnage droit	Торцовка под прямым углом
10.2	Bevel cross-cutting	Tronçonnage incliné	Торцовка со скосом
10.3	Mitre cutting	Coupe d'onglet	Распиловка под углом
10.4	Ripping	Refente	Распиловка
10.5	Grooving	Rainurage	Прорезка канавок

STANDARDSISO.COM : Click to view the full PDF of ISO 7957:1987

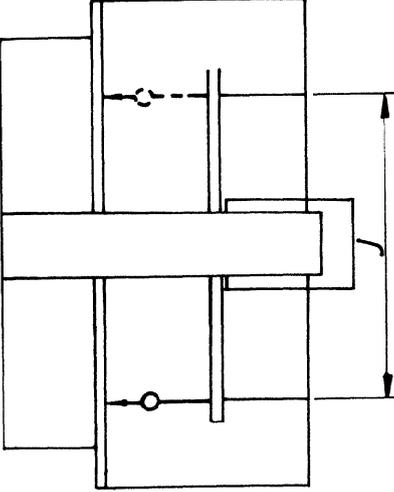
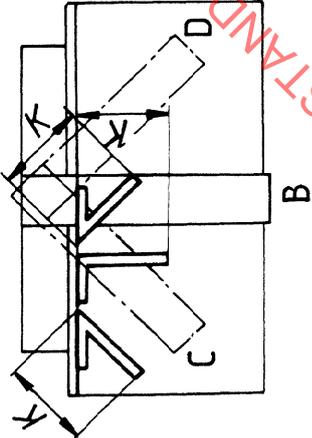
5 Acceptance conditions and permissible deviations — Geometrical tests

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO 230-1 acceptance code
G1		<p>Checking of parallelism of the table to the arm</p>	<p>0,5 for $A = 400$</p>	<p>Dial gauge</p>	<p>Subclause 5.412.2</p>
G2		<p>Checking of longitudinal straightness of the fence</p>	<p>0,2 for $E \leq 630$ 0,4 for $E > 630$</p>	<p>Straightedge and feeler gauges</p>	<p>Subclause 5.212.1</p>

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO 230-1 acceptance code
G3		Checking of squareness of the fence to the table	0,15/50*	Square and feeler gauges	Subclause 5.512.2 * Distance E
G4		Measurement of camming of the rear saw flange	0,03 for $G \leq 100$ 0,05 for $G > 100$	Dial gauge	Subclause 5.632 Apply a force F , as set by the manufacturer, in the spindle axis direction.
G5		Measurement of run-out of the spindle	0,03	Dial gauge	Subclause 5.612.2

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO 230-1 acceptance code
G6		<p>Checking of 90° and 45° saw head angle setting of the sawblade to the table</p>	<p>0,3 for $H = 100$</p>	<p>Square, angle gauge, test disc and feeler gauges</p>	<p>Subclause 5.512.2</p>
G7		<p>Checking of squareness of spindle axis to carriage slide rods</p>	<p>0,1/400*</p>	<p>Dial gauge</p>	<p>Subclause 5.512.4 * Distance l</p>

STANDARDSISO.COM : Click to view the full PDF of ISO 7957:1987

No.	Diagram	Object	Permissible deviation	Measuring instruments	Observations and references to the ISO 230-1 acceptance code
G8		<p>Checking of parallelism of sawblade to fence (test disc mounted in place of sawblade)</p>	<p>0,25 for $J = 400$</p>	<p>Dial gauge and test disc</p>	<p>Subclause 5.412.2 Sawhead in ripping position.</p>
G9		<p>Checking of 90° and 45° arm angle setting of the sawblade to the fence</p>	<p>0,15 for $K = 400$</p>	<p>Square, angle gauge, test disc and feeler gauges</p>	<p>Subclause 5.512.2</p>

Annex

Equivalent terms

(This annex does not form an integral part of the standard.)

Reference	German	Spanish	Italian	Swedish
	Auslegerkreissägemaschinen	Sierra circular radiale	Sega circolare radiale	Radialkapsäg
1	Ständer	Armazón	Intelaiatura	Stativkonstruktion
1.1	Tisch	Mesa soporte	Supporto della tavola	Bord
1.2	Säule	Columna	Colonna	Pelare
1.3	Auslegerarm	Brazo	Braccio	Arm
1.4	Fuß	Base o pie	Piede	Underdel
2	Vorschub von Werkstück und/oder Werkzeug	Desplazamiento de las piezas y/o de las herramientas	Spostamento dei pezzi e/o degli utensili	Matning av arbetsstycke och/eller verktyg
2.1	Wagen	Carro	Carrello	Vagn
2.2	Gleitführungsstangen	Barra de las correderas	Aste di guida	Gejder
2.3	Führungsrolle	Rodillo	Rullini di guida	Löprulle
2.4	Kugellager	Rodamiento a bolas	Cuscinetti a sfere	Kullager
2.5	Exzenterachse für den Schneidkopf	Eje excéntrico de rodillo	Asse eccentrico dei rullini	Excenteraxel för löprulle
2.6	Achse für den Schneidkopf	Eje simple de rodillo	Asse semplice dei rullini	Axel för löprulle
3	Werkstückauflage, -halterung und -führung	Soporte, sujeción y guiado de las piezas	Supporto, fissaggio e guida dei pezzi	Upplag, hållare och styrning för arbetsstycke
3.1	Tisch aus Holz	Mesa de madera	Tavola in legno	Bord av trä
3.2	Tischanschlag	Tope a lo largo de la mesa	Guida d'appoggio	Anslag
3.3	Tischverlängerung	Prolongación de la mesa	Prolunga della tavola	Bordförhängning
4	Werkzeugträger und Werkzeuge	Porta-herramientas y herramientas	Portautensili ed utensili	Verktyghållare och verktyg
4.1	Kreissägeblatt	Hoja	Lama	Sägblad
5	Einbauteile und Teile für den Werkzeugantrieb	Unidad de trabajo y su transmisión	Unità operatrice e suo azionamento	Bearbeitingsenheter och drivsystem
5.1	Schneidkopf	Cabezal porta-hoja	Testa portalamina	Sågaggregat
5.2	Spannflansch	Brida de la sierra	Flangia della lama	Fläns
5.3	Spannschraube	Tornillo de sujeción	Vite di serraggio	Låsskruv
5.4	Antriebsmotor	Motor	Motore	Motor
5.5	Sägewelle	Eje	Albero	Sågspindel
6	Bedienungs- und Überwachungsorgane	Mandos	Comandi	Manöverorgan
6.1	Bedienung der Zuhaltung	Interruptor de gatillo	Interruttore di messa in moto	Startapparat
6.2	Griff für die Schneidkopf-bewegung	Puño del movimiento del cabezal	Maniglia di azionamento della testa	Handtag för sågrörelse
6.3	Blockierung des Wagens	Blocaje del carro	Bloccaggio del carrello	Låsning av vagn
6.4	Aufhebung der Blockierung (Entriegelung)	Palanca del freno	Leva di bloccaggio della testa	Låsning av sågbladets vinkelinställning
6.5	Tischeinjustierung	Tornillo de puesta a nivel de la mesa	Vite di livello della tavola	Skruv för bordjustering
6.6	Tischhöhenverstellung	Mando de ajuste vertical de la mesa	Regolazione verticale della testa	Sågaggregatets höjdställning
6.6.1	Kettengetriebe und Kette für die Tischhöhenverstellung	Piñón y cadena desmultiplicadora de 6.6	Pignone e catena di riduzione per il 6.6	Kedjväxel för sågaggregatets höjdställning

Refer- ence	German Auslegerkreissägemaschinen	Spanish Sierra circular radiale	Italian Sega circolare radiale	Swedish Radialkapsåg
6.6.2	Kegelaradgetriebe für die Tischhöhen- verstellung	Piñón y reenvío de angulo de 6.6	Ingranaggio conico per il 6.6	Kuggjulsväxel för sågaggregatets höjd- inställning
6.6.3	Schraubenspindel für die Tischhöhenver- stellung	Barra roscada para subir y bajar 6.6	Vite filettata per il 6.6	Skruv för sågaggregatets höjdställning
6.7	Ausrichtung des Auslegerarmes	Orientación del brazo	Regolazione del braccio	Vinkelinställning av arm
6.7.1	Klinke	Dedo de muescas	Leva di posizionamento	Spärr
6.7.2	Sperrscheibe	Disco de muescas	Disco di posizionamento	Spärrskiva
6.7.3	Winkelskala	Sector graduado	Scala graduata	Skala för vinkelinställning
6.8	Horizontale Ausrichtung des Schneid- kopfes	Orientación horizontal del cabezal porta- disco	Regolazione orizzontale della testa portalama	Horisontalinställning av sågaggregat
6.8.1	Klinke	Dedo de muesca	Leva di posizionamento	Spärr
6.8.2	Sperrscheibe	Disco con muesca	Disco di posizionamento	Spärrskiva
6.8.3	Winkelskala	Sector graduado	Scala graduata	Skala för vinkelinställning
6.9	Vertikale Ausrichtung des Sägeblattes	Orientación vertical de la hoja	Regolazione verticale della lama	Vertikalinställning av sågbladet
6.9.1	Klinke	Dedo de muescas	Leva di posizionamento	Spärr
6.9.2	Sperrscheibe	Disco con muescas	Disco de posizionamento	Spärrskiva
6.9.3	Winkelskala	Sector graduado	Scala graduata	Skala för vinkelinställning
7	Sicherheitseinrichtungen (Beispiele)	Dispositivos de seguridad (ejemplos)	Dispositivi di sicurezza (esempi)	Säkerhetsanordningar (exempel)
7.1	Vordere Schutzverkleidung	Placa de protección delantera	Protezione anteriore	Visirskydd
7.2	Verdeckung des Sägeblattes	Defensa de la hoja	Protezione della lama	Undre fjädrande skydd
7.3	Rückstellfeder	Lengueta antiretroceso	Molla di richiamo	Backslagshinder
7.4	Bremseinrichtung	Dispositivo de frenado	Dispositivo di frenaggio	Spindelbroms
8	Verschiedenes	Diversos	Varie	Diverse
8.1	Absaugstutzen	Boca de aspiración	Bocca di aspirazione	Anslutning för spånstug
8.2	Lineal mit Skala	Regla graduada	Scala graduata	Linjal med skala
9	(freier Abschnitt)	(libre)	(libero)	(vakant)
10	Arbeitsbeispiele	Ejemplos de trabajo	Esempi di lavorazione	Bearbeitungsexempel
10.1	Rechtwinkliger Trennschnitt	Corte recto	Taglio trasversale	Rätvinklig kapning
10.2	Trennschnitt mit Neigung	Corte inclinado	Taglio inclinato	Vinkelkapning
10.3	Schräger Trennschnitt	Corte en inglete	Taglio obliquo	Sneekapning
10.4	Längsschnitt	Corte longitudinal	Taglio longitudinale	Klyvning
10.5	Fugenschnitt	Corte ranurado	Scanalature	Sparsågning