

Machine tools — Test conditions for wire electrical-discharge machines (wire EDM) — Terminology and testing of the accuracy

ICS 25.120.40

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to iv, pages 1 to 22, an inside back cover and a back cover.

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This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 August 2000

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Amendments issued since publication

Amd. No.	Date	Comments

ISBN 0 580 36182 9

**Machine tools — Test conditions for wire
electrical-discharge machines (wire
EDM) — Terminology and testing of the
accuracy**

*Machine-outils — Conditions d'essai des machines d'électroérosion à fil (fil
EDM) — Terminologie et contrôle de la précision*



Reference number
ISO 14137:2000(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14137 was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 2, *Test conditions for metal cutting machine tools*.

Machine tools — Test conditions for wire electrical-discharge machines (wire EDM) — Terminology and testing of the accuracy

1 Scope

ISO 14137 specifies, with reference to ISO 230-1, ISO 230-2 and ISO 230-4, geometric tests, tests of accuracy and repeatability of numerically controlled positioning axes, machining test and circular tests for general purpose, normal-accuracy wire electrical-discharge machines (wire EDM). It also specifies applicable tolerances corresponding to the above-mentioned tests.

ISO 14137 is applicable to single column machines of cross slide table type and double column type machines.

ISO 14137 deals only with the testing of accuracy of the machine. It does not apply to the testing of the machine operation (vibration, abnormal noise, stick-slip motion of components, etc.) nor to machine characteristics (such as speeds, feeds, etc.), which should generally be carried out before testing the accuracy.

ISO 14137 provides the terminology used for the principle components of the machine and the designation of the axes in accordance with ISO 841.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 230-1:1996, *Test code for machine tools — Part 1: Geometrical accuracy of machines operating under no-load or finishing conditions*.

ISO 230-2:1997, *Test code for machine tools — Part 2: Determination of accuracy and repeatability of positioning of numerically controlled axes*.

ISO 230-4:1996, *Test code for machine tools — Part 4: Circular tests for numerically controlled machine tools*.

3 Terminology and designation of axes

3.1 Cross slide table type

See Figure 1 and Table 1.

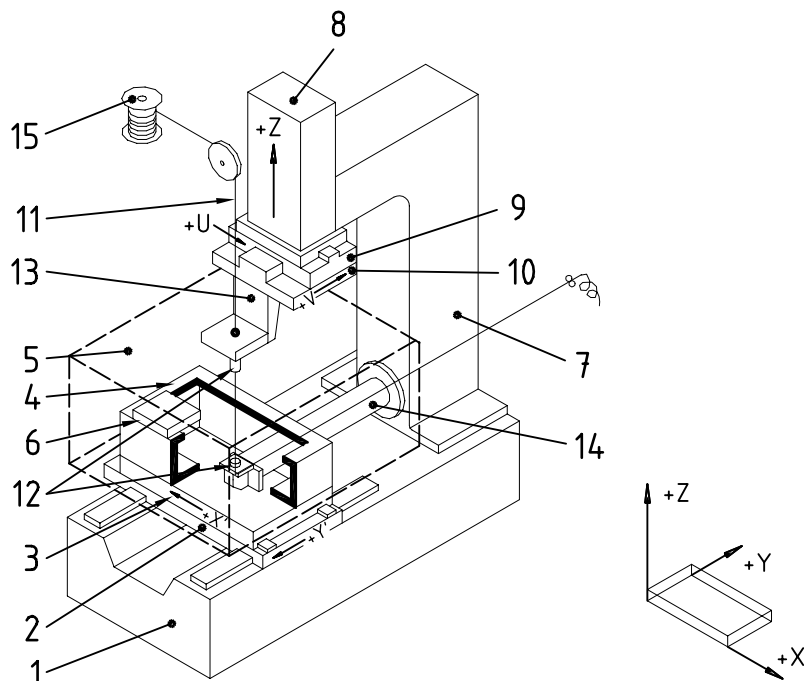


Figure 1

Table 1

Ref.	English	French	German
1	Bed	Banc	Bett
2	Saddle (Y-axis)	Selle (axe Y)	Schlitten (Achse Y)
3	Table (X-axis)	Table (axe X)	Tisch (Achse X)
4	Work-holding frame	Cadre de bridage	Aufspannrahmen
5	Work tank (cover)	Bac de travail	Arbeitsbehälter
6	Workpiece	Pièce à usiner	Werkstück
7	Column	Montant	Ständer
8	Head (Z-axis)	Tête (axe Z)	Schlitten Z
9	U saddle (U-axis)	Selle U (axe U)	Schlitten U
10	V saddle (V-axis)	Selle V (axe V)	Schlitten V
11	Wire electrode	Fil électrode	Drahtelektrode
12	Wire guide	Guide-fil	Drahtführung
13	Upper guide support	Support guide-fil supérieur	Oberer Drahtführungshalter
14	Lower guide support	Support guide-fil inférieur	Unterer Drahtführungshalter
15	Wire spool	Enrouleur de fil	Drahteinroller

NOTE In addition to terms used in two of the three official ISO languages (English and French), this table gives the equivalent terms in German; these are published under the responsibility of the member body of Germany (DIN). However, only the terms given in the official languages can be considered as ISO terms.

3.2 Double column type

See Figure 2 and Table 2.

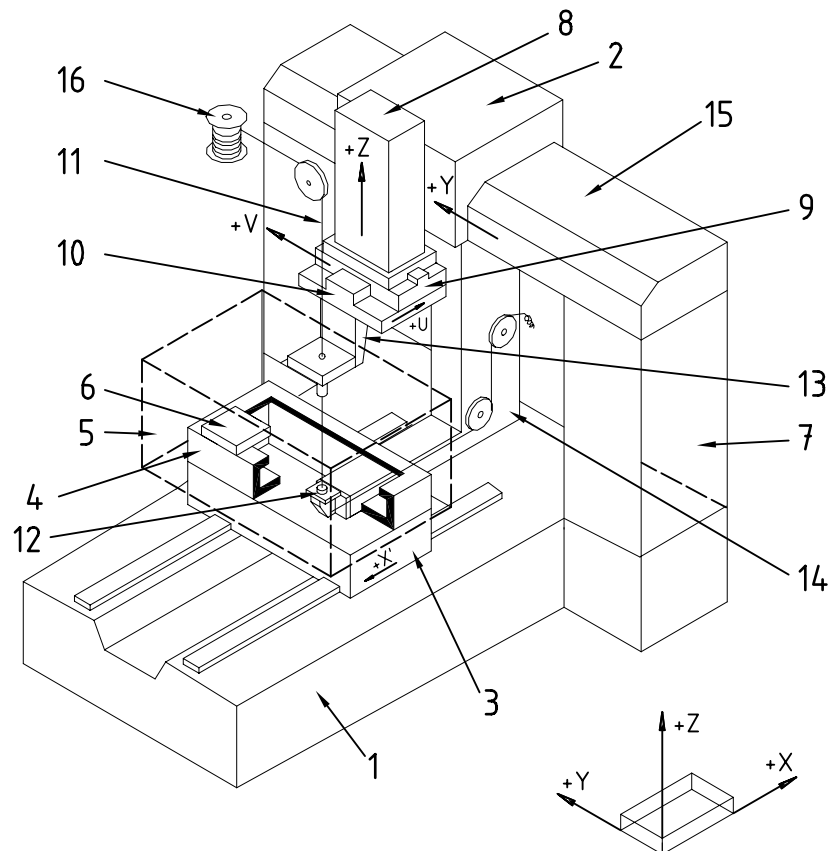


Figure 2

Table 2

Ref.	English	French	German
1	Bed	Banc	Bett
2	Saddle (Y-axis)	Selle (axe Y)	Schlitten (Achse Y)
3	Table (X-axis)	Table (axe X)	Tisch (Achse X)
4	Work-holding frame	Cadre de bridage	Aufspannrahmen
5	Work tank (cover)	Bac de travail	Arbeitsbehälter
6	Workpiece	Pièce à usiner	Werkstück
7	Column	Montant	Ständer
8	Head (Z-axis)	Tête (axe Z)	Schlitten Z
9	U saddle (U-axis)	Selle U (axe U)	Schlitten U
10	V saddle (V-axis)	Selle V (axe V)	Schlitten V
11	Wire electrode	Fil électrode	Drahtelektrode
12	Wire guide	Guide-fil	Drahtführung
13	Upper guide support	Support guide-fil supérieur	Oberer Drahtführungshalter
14	Lower guide support	Support guide-fil inférieur	Unterer Drahtführungshalter
15	Cross beam	Traverse	Querbalken
16	Wire spool	Enrouleur de fil	Drahteinroller

NOTE NOTE In addition to terms used in two of the three official ISO languages (English and French), this table gives the equivalent terms in German; these are published under the responsibility of the member body of Germany (DIN). However, only the terms given in the official languages can be considered as ISO terms.