
**Test conditions for high accuracy turret
and single spindle coordinate drilling and
boring machines with table of fixed height
with vertical spindle — Testing of the
accuracy —**

**Part 1:
Single column type machines**

*Conditions d'essai des machines à percer et à aléser verticales
monobroches à coordonnées de haute précision avec table de hauteur
fixe — Contrôle de la précision —*

Partie 1: Machine à un montant



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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 part of ISO 3686 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3686-1 was prepared by Technical Committee ISO/TC 39, *Machine tools*, Subcommittee SC 2, *Test conditions for metal cutting machine tools*.

This first edition of ISO 3686-1, together with ISO 3686-2, cancel and replace ISO 3686:1976, of which they constitute a technical revision.

ISO 3686 consists of the following parts, under the general title *Test conditions for high accuracy turret and single spindle coordinate drilling and boring machines with table of fixed height with vertical spindle — Testing of the accuracy*:

- *Part 1: Single column type machines*
- *Part 2: Portal type machines with moving table*

Test conditions for high accuracy turret and single spindle coordinate drilling and boring machines with table of fixed height with vertical spindle — Testing of the accuracy —

Part 1: Single column type machines

1 Scope

This part of ISO 3686 specifies, with reference to ISO 230-1; both geometric tests and machining tests on vertical spindle, single column type coordinate drilling and boring machines. It also specifies the applicable tolerances corresponding to the above-mentioned tests.

It should be noted that, besides drilling and boring operations, it may be possible to carry out light milling operations with these machines. However, this part of ISO 3686 does not deal with jig boring machines or machining centres.

This part of ISO 3686 deals only with the verification of the accuracy of the machine. It does not apply to the testing of the machine operation (vibrations, abnormal noises, the stick-slip motion of components, etc.), nor the machine characteristics (such as speeds, feeds, etc.), which should generally be carried out before testing the accuracy.

This part of ISO 3686 provides the terminology used for the principle components of the machine and indicates the designation of the axes in accordance with ISO 841.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 3686. For dated references subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3686 are encouraged to investigate the possibility of applying the most recent edition of the normative document 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: Geometric accuracy of machines operating under no-load or finishing conditions.*