INTERNATIONAL STANDARD 5734

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Test conditions of mechanical dividing heads for machine tools — Testing of the accuracy

Conditions d'essai des appareils diviseurs, à commande mécanique, pour machines-outils — Contrôle de la précision

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 5734 was developed by Technical Committee ISO/TC 39, *Machine tools,* and was circulated to the member bodies in October 1976.

It has been approved by the member bodies of the following countries :

Austria	India	Spain
Belgium	Italy	Sweden
Brazil	Japan	Switzerland
Bulgaria	Korea, Rep. of	United Kingdom
Czechoslovakia	Mexico	U.S.A.
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Germany	Romania	Yugoslavia
Hungary	South Africa, Rep. of	

No member body expressed disapproval of the document.

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Test conditions of mechanical dividing heads for machine tools — Testing of the accuracy

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies, with reference to ISO/R 230, geometrical tests on general purpose and normal accuracy mechanical dividing heads for use on machine tools, and the corresponding permissible deviations and ranges that apply.

It deals only with the verification of the accuracy of the device. It does not apply to the running of the device, which should generally be checked before testing accuracy.

2 REFERENCE

ISO/R 230, *Machine tool test code.*

3 PRELIMINARY REMARKS

3.1 In this International Standard, deviations and ranges are expressed in millimetres and in inches.

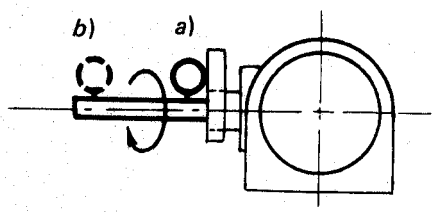
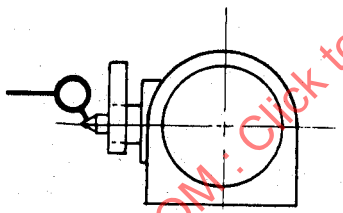
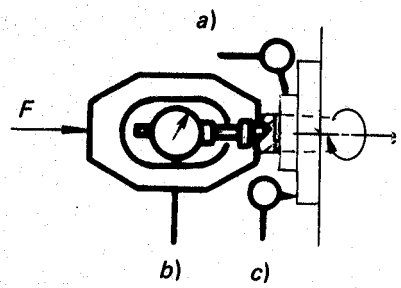
3.2 To apply this International Standard, reference should be made to ISO/R 230, especially for the description of measuring methods and the recommended accuracy of testing equipment.

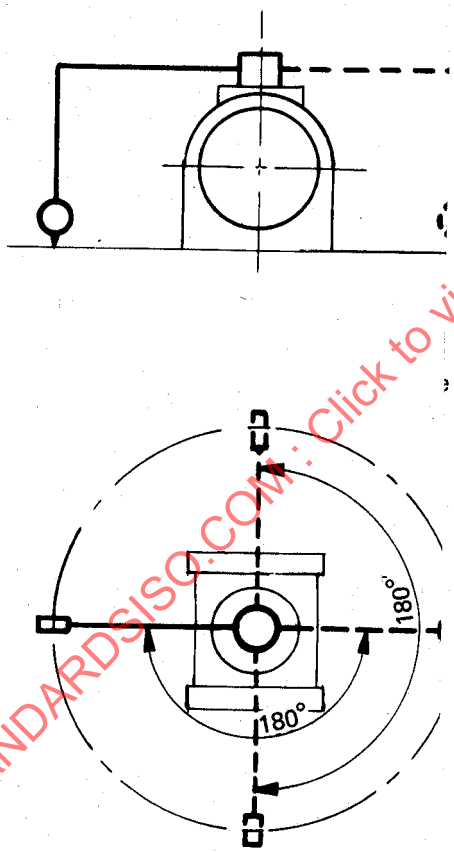
3.3 The sequence in which the geometrical tests are given is related to the sub-assemblies of the device, and this in no way defines the practical order of testing. In order to make the mounting of instruments or gauging easier, tests may be applied in any order.

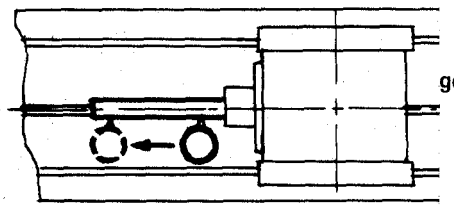
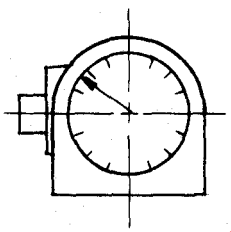
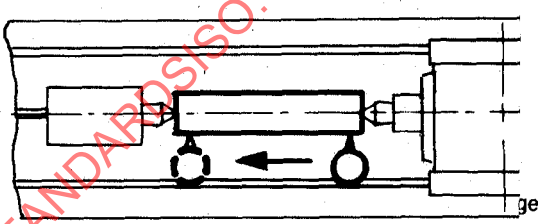
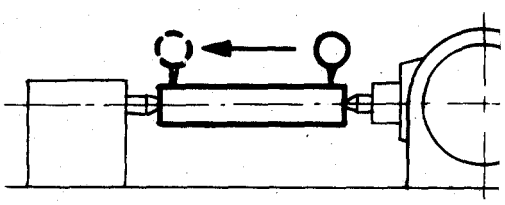
3.4 When inspecting a device, it is not always necessary to carry out all the tests given in this International Standard. It is up to the user to choose, in agreement with the manufacturer, those relating to the properties which are of interest to him, but these tests are to be clearly stated when ordering a device.

3.5 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 tolerance is 0,01 mm (0.0004 in).

4 GEOMETRICAL TESTS

No.	Diagram	g instruments	Observations and references to the test code ISO/R 230
G 1		ıge and test	Sub-clause 5.612.3
G 2		e	Sub-clause 5.612.2
G 3			*a)* Sub-clause 5.612.2 For a tapered spindle nose, the dial gauge shall be set perpendicular to the generatrix of the taper. *b)* and *c)* Sub-clauses 5.62, 5.621.2, 5.622.1, 5.622.2 and 5.632 For the position of dial gauge, see figures 59 to 64 and 67, sub-clause 5.62, 5.622 and 5.632. The value of the force *F* to apply when carrying out checks *a)*, *b)* and *c)* shall be specified by the manufacturer.

N°	Diagram g instruments	Observations and references to the test code ISO/R 230
G 4		Sub-clause 5.512.1 1) The dial gauge shall be set in a vertical plane parallel to the swivelling axis of the dividing head. Dial gauge rotated through 180° and the differences of readings observed. 2) The dial gauge should be set in a plane perpendicular to the preceding one. The deviation shall be noted and after rotating the dial gauge through 180° the difference of readings observed. * Distance between the two points touched.

No.	Diagram	g instruments	Observations and references to the test code ISO/R 230
G 5		ge and test	Sub-clauses 5.412.1 and 5.412.4 The measurement shall be carried out on two diametrally opposed generatrix of the mandrel, after they have been rotated (instead of the spindle) through 180°. The tolerance is equal to the algebraic mean of the measurements. Tenons adjusted, if necessary.
G 6		plate	*a*) Clause 6.111 This test eliminates any error in the plate for the hole and pin type. *b*) Clause 6.114 The permissible deviation includes the transmission errors in any type of dividing head as well as errors in the plate for the hole and pin type.
G 7	*a*)  *b*) 	ge and test	Sub-clause 5.412.4 Test mandrel held between centres : *a*) tenons adjusted, if necessary; *b*) height adjusted, if necessary.