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# INTERNATIONAL STANDARD



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

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## Test conditions for pillar type vertical drilling machines — Testing of the accuracy — Part II : Practical test

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[ISO 2773-2:1973](https://standards.iteh.ai/catalog/standards/sist/ece9ef31-a59a-4470-8b4e-c473052d7dfa/iso-2773-2-1973)

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**Descriptors** : machine tools, drilling machines (tools), tests, accuracy, inspection.

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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 2773/H (originally Draft International Standard ISO/DIS 3032) was drawn up by Technical Committee ISO/TC 39, *Machine tools*, and circulated to the Member Bodies in January 1973.

It has been approved by the Member Bodies of the following countries :

Austria	India	Sweden
Belgium	Italy	Switzerland
Bulgaria	Japan	Thailand
Czechoslovakia	New Zealand	Turkey
France	Poland	United Kingdom
Germany	Romania	U.S.A.
Hungary	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

# Test conditions for pillar type vertical drilling machines – Testing of the accuracy – Part II : Practical test

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the practical test to be carried out for checking pillar type vertical drilling machines and is a continuation of ISO 2773/1, *Test conditions for pillar type vertical drilling machines – Testing of the accuracy – Part I : Geometrical tests*.

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2 PRACTICAL TEST

No.	Diagram	Nature of test
P1	<p style="text-align: center;">iTech STANDARD PREVIEW (standards.itech.ai)</p> <p style="text-align: center;">ISO 2773-2:1973 <a href="https://standards.itech.ai/catalog/standards/sist/ece9ef31-a59a-4470-8b4e-c473052d7dfa/iso-2773-2-1973">https://standards.itech.ai/catalog/standards/sist/ece9ef31-a59a-4470-8b4e-c473052d7dfa/iso-2773-2-1973</a></p> <p style="text-align: center;">Special equipment (Alternative)</p>	<p>Measurement of deflection of the spindle axis from its position square with the table under an axial force applied to the spindle :</p> <p>a) in the plane of symmetry of the machine;</p> <p>b) in the plane perpendicular to the plane of symmetry of the machine.</p>

Permissible deviation		Measuring instruments	Observations and references to the test code ISO/R 230
mm	in		
2/1000	0.08/40	<p>Special equipment</p> <p>ISO 2773-2:1973</p> <p>Dial gauges and load cell</p>	<p>It is unnecessary to follow the test code ISO/R 230. A drilling test shall not be carried out but an axial force <math>F</math> shall be exerted on the spindle nose, using the table surface as a support.</p> <p>The application of force <math>F</math> and the measurement of the deflection under load of the axis of the spindle in relation to the table surface shall be made directly on the spindle nose with the aid of special equipment A mounted directly on the spindle nose.</p> <p>The base B of the load cell shall be of sufficient area and rigidity to eliminate any deformation of the table.</p> <p>The value of force <math>F</math> to be exerted shall be specified by the manufacturer. In the absence of a specified load, reference shall be made to the graph given in the annex to determine the load as a function of the drilling capacity <math>\phi</math> of the machine.</p> <p>Spindle retracted. Spindle head (for machines having a spindle head adjustable in height), table and knee shall be placed and locked in mid-position on the column.</p> <p>A calibration sheet of the test instrument M shall be supplied.</p>

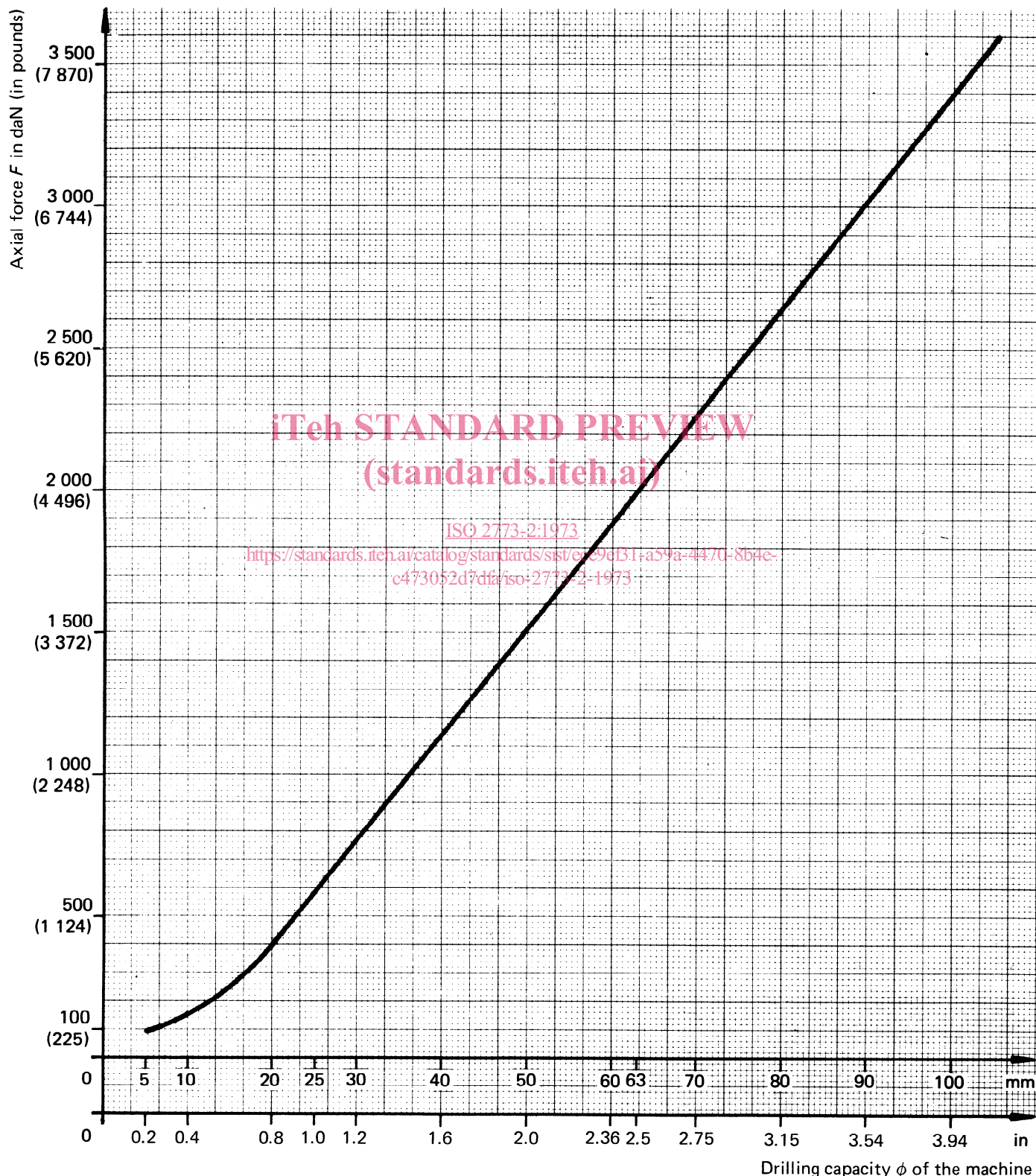
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ANNEX

GRAPH GIVING THE AXIAL FORCE  $F$  AS A FUNCTION OF THE DRILLING CAPACITY  $\phi$  OF THE MACHINE

NOTE — This graph only gives typical values representing average thrusts when drilling medium steel (Tensile strength  $R = 0,55$  to  $0,65$  GPa\*) with freshly sharpened drills.



NOTE — For  $\phi > 25$  mm (1 in), the graph is approximately rectilinear.

\* Provisional value :  $R = 55$  to  $65$  hbar.

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