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Test conditions for testing the accuracy of boring and milling machines with horizontal spindle — Part 1: Machines with fixed column and movable table

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Machine Tool Builders' Association (JMTBA)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

The corresponding International Standards, **ISO 3070** series, were revised and divided into Part 1 to Part 3 in 2007 from previous 4 parts including Part 0 (General). **JIS B 6210**, **JIS B 6222** and **JIS B 6252** have been the standards corresponding to the previous series; and at this time of revision, these three standards are restructured, and established as Part 1 to Part 3 of **JIS B 6210**.

Consequently **JIS B 6210**:1998 has been withdrawn and replaced with this Standard.

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Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public.

JIS B 6210 series consists of the following 3 parts under the general title "*Test conditions for testing the accuracy of boring and milling machines with horizontal spindle*":

Part 1: Machines with fixed column and movable table

Part 2: Machines with movable column and fixed table

Part 3: Machines with movable column and movable table

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Test conditions for testing the accuracy of boring and milling machines with horizontal spindle — Part 1 : Machines with fixed column and movable table

Introduction

This Japanese Industrial Standard has been prepared based on the third edition of **ISO 3070-1** published in 2007 with some modifications of the technical contents to aid users in understanding this Standard.

The portions given dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies, with reference to **JIS B 6190-2**, **JIS B 6190-7** and **JIS B 6191**, geometric tests, machining tests and tests for checking the accuracy and repeatability of positioning by numerical control of the general-purpose and normal-accuracy boring and milling machines with horizontal spindle having fixed column and movable table. This Standard also specifies the tolerances corresponding to these tests.

This type of machine can be provided with spindle heads of different types, such as those with boring spindle and milling spindle, boring spindle and facing head, or ram.

This Standard concerns machines having table saddle movement (Z-axis), table movement (X-axis), spindle head movement (Y-axis), movement of boring spindle or ram (W-axis) and possibly facing head slide movement (U-axis), that may include the index table and the rotary table.

NOTE : In **JIS B 6210-2** and **JIS B 6210-3**, the movement of spindle or ram is designated as Z-axis movement.

This Standard deals only with the verification of the accuracy of the machine. It does not apply to the operational testing of the machine (e.g. vibration, abnormal noise, stick-slip motion of components) nor to machine characteristics (e.g. spindle speed, feed speed), as such checks are generally carried out before testing the accuracy.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 3070-1 : 2007 *Machine tools — Test conditions for testing the accuracy of boring and milling machines with horizontal spindle — Part 1 : Machines with fixed column and movable table* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to

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