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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 5289-1985

Replacing GB/T 5289.2-2000

**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**

(English Translation)

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Foreword

GB/T 5289 "Test conditions for horizontal milling precision" is divided into three sections.

- Part 1. fixed and mobile table column machine;
- Part 2. mobile column and fixed table machine tools;
- Part 3. Move the machine table and mobile column.

This section GB/T 5289 Part 1.

The partial modification of the use of ISO 3070-1:2007 "horizontal milling precision test conditions - Part 1. Mobile and fixed column work Machine tools "(in English).

Taking into account China's national conditions, at the time of adoption of international standards it has been modified. These technical differences identified in a single vertical line to which they relate the margin of the terms page. It gives a list of the technical differences and their reasons in Appendix A for reference.

For ease of use, this section also made the following editorial changes.

- Remove the ISO foreword;
- Chapter 5, "Special Parts comment" to "major part";
- Chapter 6, "Basic Notes" is replaced by "General requirements";

- In the form accuracy removed "Found error" column;
- With a decimal point "." Instead of a comma as the decimal point "." this Part replaces GB/T 5289.2-2000 "Test conditions for horizontal milling accuracy - Part 2. desktop machine." Section compared with the GB/T 5289.2-2000 The main changes are as follows.
- Increase the Chapter 4, "the definition of machining operations";
- Increased Chapter 5, "main part";
- A "boring axis deflection when" instead of "straightness boring axis movement" (see this edition 7.5 G19,2000 Version 5.5 G19);
- With "numerical control cutting" instead of "test precision CNC horizontal boring and milling work supplementary items" P11 and P12 (see Chapter 8 edition M4, 2000 version 6.2);
- Revised Chapter 9, "NC positioning accuracy and repeatability of the test," the precision value (see Chapter 9 edition, 2000 5th edition the chapter 5.10).

Appendix A of this section is an informative annex.

This part is proposed by China Machinery Industry Federation.

This part of the National Metal Cutting Machine Standardization Technical Committee (SAC/TC22) centralized.

This section is drafted. Shenyang Institute of drill boring Kunming Machine Tool Company Limited.

1 Scope

This section GB/T 5289 specifies the general purpose general accuracy of horizontal boring and milling (with a fixed table and mobile column machine) Geometric accuracy, precision, CNC positioning accuracy and repeatability of the test method and tolerances.

The machine can be configured to different types of spindle box, with a sliding axis milling and boring, with a sliding shaft peace rotating disk with milling ram or ram Headstock.

This portion of the machine tool having a longitudinal (Z axis) and horizontal (X axis) of workstations, vertically movable headstock (Y axis), can be moved Boring slider moving shaft or ram (W-axis), flat rotating disk (U-axis) can be radial feed movement, but also with a rotary table or indexing workers for Taiwan.

This section applies to ordinary and CNC horizontal boring and milling machine (with fixed column and movable table) the accuracy of testing.

This section does not apply to machines running test (such as vibration, unusual noise, uneven movement of the member) and machine characteristic test (Such as speed, feed),

because these tests are usually carried out before testing the accuracy.

2 Normative references

The following documents contain provisions which, through reference to GB/T 5289 to the present, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 1182-2008 Geometrical product specifications (GPS) geometric tolerances of form, orientation, location and runout tolerancing (ISO 1101:2004, EQV) GB/T 17421.1-1998 Test code for machine tools - Part 1. under no-load or finishing conditions Geometric accuracy of machines (Eqv ISO 230-1:1996) GB/T 17421.2-2000 Test code for machine tools - Part 2. CNC axis positioning accuracy and repeatability of determination (Eqv ISO 230-2:1997)

3.1 Boring

Holding the workpiece does not move, the rotary cutting tool, cutting the main process is completed, that is, through the tool and/or flat rotating disk spindle rotation cut Cutting energy cutting machine.

3.2 Mobile form

Feed movement are the following.

- a) Longitudinal, lateral movement or rotary motion;
- b) headstock vertical movement;
- c) axially movable spindle;
- d) on a flat rotating disk radial movement of the slider.

Table 1 gives the name of the machine shown in Figure 1 each structural member. Figure 1 shows the milling and boring machine with fixed and mobile column of the table

Two possible configurations. one is not a rotary table [see Figure 1a)], and the other is a rotary table [see Figure 1b)].