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

GB/T 4682-2007

Replacing GB/T 4682-1984

**Internal cylindrical grinding machines with horizontal spindle --
Testing of the accuracy**

内圆磨床 精度检验

(English Translation)

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Foreword

This standard is identical with ISO 2407:1997 "in the horizontal axis grinder accuracy test Test conditions" (in English).

This standard is equivalent translation ISO 2407:1997.

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

--- In order to be consistent with other standards, the standard name will be changed to "internal grinding machine precision testing";

--- "This International Standard" be replaced by "this standard";

--- With a decimal point instead of a comma as the decimal point, ",";

--- To ISO 2407:1997 and other international standards cited by the national standard in

place of the corresponding international standards;

- Increasing the reference standard GB/T 19660-2005;
- Remove the foreword and introduction of ISO 2407-1997;
- Deleted Chapter 1, "note" of the content;
- Remove the "Found bias" Tolerance a column;
- Delete the contents of "Appendix A" of.

This standard replaces GB/T 4682-1984 "precision internal grinder." this standard and GB/T 4682-1984 compared to the main changes are as follows.

- Increased Chapter 2, "Normative references";
- Increased Chapter 3, "the machine structure." and supporting this standard criteria used are.
- JB/T 9906.1-1999 "internal grinder series model";
- JB/T 9906.2-1999 "internal grinder technical conditions." the standard proposed by China Machinery Industry Federation.

The standard metal cutting machine tools by the National Standardization Technical Committee (SAC/TC22) centralized.

This standard was drafted. Wuxi internal grinder Institute.

1 Scope

The standard reference GB/T 17421.1 provides for general use and general precision with or without face grinding wheel frame within horizontal shaft grinder Geometric accuracy and precision test and the corresponding tolerance.

This standard is used only for testing the accuracy of machine tools, does not apply to the operation to check the machine (vibration, crawling abnormal noise, moving parts Etc.), is not suitable for checking machine parameters (speed, feed rate, etc.). These checks should normally be carried out before testing the accuracy.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

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 19660-2005
Industrial automation systems and integration - Numerical control of machines and motion
coordinate system named (ISO 841:2001, IDT)

3.1 Description

Common feature of all horizontal axis within the grinder was on the bed with at least horizontal headstock and grinding, and their spindle face each other.

Head frame is rotatable about a vertical axis (B axis) were rotating cone grinding.

Depending on the machine design, the headstock either or both grinding along the X axis. According to GB/T 19660-2005 grinding usually Movement along the axis Z (see Figures 1 and 2).

In some cases, the machine can be equipped with an end face by adding a grinding head (see Figure 3), or add an additional rotating grinding means WHEEL face grinding. Additional devices are typically mounted on the head frame, face grinding may be parallel to z axis linear motion (W axis), also W can be rotated about an axis of pivotal movement (C rotation direction) (see FIG. 4).

3.2 Terminology and naming axis

This standard gives the terminology of the main components of the machine, according to GB/T 19660 named axis.

Figure naming terminology and the axis 1 to 4, the numbers 1 to 14 in FIG. 16 in Table 1.

GB/T 4682-2007/ISO 2407:1997