

ICS 25.080.20

CCS J 54



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

GB/T 20957.7-2007

**Test conditions for precision machining centre -- Part 7:
Accuracy of a finished test piece**

精密加工中心检验条件 第7部分：精加工试件精度检验

(English Translation)

Issued on: June 25, 2007

Implemented on: November 1, 2007

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 General requirements
- 4 Type, test pieces

Foreword

GB/T 20957 "Test conditions for precision machining centers" is divided into ten parts.

--- Part 1. horizontal spindle and with head Geometric tests for machines (horizontal Z-axis);

Universal spindle head Geometric tests for machines (vertical Z-axis) or vertical with vertical primary rotary axis;. --- Part 2

--- Part 3. with horizontal rotary axis of the main spindle head overall universal Geometric tests for machines (vertical Z-axis);

--- Part 4. positioning accuracy and linear and rotary axes repeatability test;

--- Part 5. Clamp the workpiece pallet positioning accuracy and repeatability of positioning accuracy test;

--- Part 6. feed rate, speed and accuracy test interpolation;

--- Part 7. finishing accuracy test specimen;

--- Part 8. Evaluation of the contouring performance in the three coordinate plane;

--- Part 9. Evaluation of conversion tool changer and pallet operation time;

--- Part 10. Evaluation of thermal deformation.

This section GB/T Part of 720,957.

The partial modification of the use of ISO 10791-7:1998 "Test conditions for machining centers - Part 7. Finishing accuracy test specimens" (in English).

And ISO 10791-7:1998 compared to the main technical content of the following modifications.

--- According to machine precision grade requirements, tolerance for all test items in ISO 10791-7:1998 on the basis of the compression (Except 9.6 roundness tolerance

compression common ratio of 1.25, the rest are compressed common ratio 1.6).

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

- "This standard" be replaced by "this section";
- "." --- With a decimal point instead of a comma as the decimal point, "";
- Title Chapter 3, "a brief description" to "General requirements";
- Of ISO 10791-7:1998 and other international standards referenced with has been adopted as our national standard in place of the corresponding international standard;
- Remove the ISO 10791-7:1998 Foreword and Introduction;
- Remove the ISO 10791-7:1998 Annex A (informative).

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. Beijing Institute of milling, Beijing Machine Tool Research Institute, National Chiao Tung University Kunming Machine Technology Co., Ltd., Zigong Changzheng Machine Tool has Limited liability company in the Czech Republic Machine Tool Co., Ltd.

1 Scope

This section provides standard specimen features, dimensions and finishing cutting test under the conditions used to assess the accuracy of the cutting machine.

This section applies to linear axis stroke of 2000mm precision machining centers, linear axis travel greater than 2000mm precision plus Workers can also refer to the use of the center.

2 Normative references

The following documents contain provisions which, through reference GB/T 20957 in this section 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 5342-2006 (all parts) indexable face mills 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)

3 General requirements

3.1

section all linear dimensions, tolerances and corresponding tolerances in millimeters; angle dimensions in degrees.

3.2

This section should reference GB/T 17421.1-1998, especially air transport precision testing before installation, and other components of the spindle Turn heat up, precision test methods, inspection tools.

The order listed in section 3.3 of the test items, the order does not indicate the actual test, in order to facilitate assembly and disassembly and inspection tool inspection, press Test any order.

3.4

inspection tools, according to the structural characteristics must not test all of the items in this section. For the purpose of acceptance testing requirements, the Users can obtain the manufacturer agreed to choose some interesting test items, but these items must be clearly stated at the time of ordering the machine.

Test tools specified in section 3.5 of example only. You can use the same amount of instructions and other inspection tools to at least the same accuracy.

Indicators should have a 0.001mm or higher resolution.

4 Type, test pieces

It offers two types in this section, and each type has two specifications of the test piece. Type, size and marking specimens in Table 1.

Table type, size and marking 1 specimen

Type nominal size designation Contouring specimen Specimens GB/T 20957.7-A160
Specimens GB/T 20957.7-A320 End milling specimen Specimens GB/T 20957.7-B80
Specimens GB/T 20957.7-B160 in principle, at the time of acceptance of each specimen should be processed only one. In the case of special requirements, such as performance statistics assessed the machine, according to the system Factory-made and user agreement determines the number of specimens processed.