

ICS 17.040.30

CCS J 04



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

GB/T 16857.3-2009

**Geometrical Product Specifications (GPS) -- Acceptance and
reverification tests for coordinate measuring machines (CMM) --
Part 3: CMMs with the axis of a rotary table as the fourth axis**

产品几何技术规范 (GPS) 坐标测量机的验收检测和复检检测 第3部分: 配置转
台的轴线为第四轴的坐标测量机

(English Translation)

Issued on: November 15, 2009

Implemented on: April 1, 2010

Issued by: Standardization Administration of China

Table of Contents

Introduction	
1 Scope	
2 Normative references	
3 Terms and definitions	
Metrological characteristics of claims 1	
4.1 Indication Error	
4.2 Environmental Conditions	
4.3 Turntable	
4.4 Probe System	
4.5 Operating Conditions	
5 Acceptance and reverification tests	
5.1 Principle	
5.2 Measuring Instruments	
5.3 Procedure	
5.4 Calculation 4 test results	
6 According to standard inspection	
6.1 Acceptance Testing	
6.2 Reverification tests	
7 Application	
7.1 Acceptance Testing	
7.2 Reverification tests	
7.3 Intermediate examination	
Appendix A (informative) intermediate inspection	
Annex B (informative) position in the GPS matrix model	
Reference	

Foreword

GB/T 16857 "Geometrical product specifications (GPS) coordinate measuring machine acceptance and reverification tests" is divided into six sections.

Part 1. Vocabulary;

Part 2. Measurements for the coordinate measuring machine;

Part 3. Configure the turret axis as the fourth axis coordinate measuring machine;

Part 4. In the scanning measurement mode using a coordinate measuring machine;

Part 5. probe detection system using multiple coordinate measuring machine;

Part 6. Assessment elements computing Gaussian error.

This section GB/T Part of 316,857.

This section identical with ISO 10360-3:2000 "Geometrical Product Specifications (GPS) coordinate measuring machine (CMM) for inspection and acceptance Reverification tests - Part 3. configuration turret axis as the fourth axis coordinate measuring machine "(in English).

This section is equivalent translation ISO 10360-3:2000.

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

--- "This part of the international standards" be replaced by "this section";

--- Remove the foreword and introduction of international standards.

This section of the Appendices A and B are informative appendices.

This part of the National Product Dimensions and Technology Standardization Technical Committee specifications and centralized.

This section is drafted. the machine Productivity Promotion Center, Hexagon Measurement Technology (Qingdao) Co., Ltd., Shenzhen Metrology and Quality Inspection Research Institute, China Aviation Industry Corporation Beijing Aviation Precision Machinery Research Institute, Shanghai on Precision Measuring Instruments Ltd., Shanghai University, Ningbo Institute of Technology.

1 Scope

GB/T 16857 provisions of this part of the verification of a four-axis coordinate measuring machine performance specified by the manufacturer's specification acceptance testing.

This section also provides the user to recheck periodically re-verification testing standards axis coordinate measuring machine performance.

Acceptance and reverification tests prescribed in this section apply only to the measurement of the workpiece having a coordinate axis, plus a turret positioning a workpiece Axis measuring machine.

2 Normative references

The following documents contain provisions which, through reference GB/T 16857 in this section, constitute provisions of this part. 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 16857.1 Geometrical Product Specifications (GPS) coordinate measuring machine acceptance and reverification tests - Part 1. Words Meeting (GB/T 16857.1-2002, eqvISO 10360-1:1998) GB/T 18779.1 Geometrical Product Specifications (GPS) - Inspection by measurement of workpieces and measuring equipment - Part 1. Specification according to inspection Test pass or fail decision rule (GB/T 18779.1-2002, ISO 14253-1:2000, EQV) JJF1001 common measurement terms and definitions

3 Terms and Definitions

GB/T 16857.1, GB/T 18779.1 and JJF1001 terms and definitions established applies GB/T 16857 in this section.

4.1 Indication error

FR radial axis coordinate measuring machine error, the error indication tangential and axial axis error FT FA axis error should not exceed their Corresponding to the maximum allowable radial axis error MPEFR, the maximum permissible error MPEFT tangential axis and the maximum permissible axial axis error Poor MPEFA.

The maximum permissible error MPEFR, MPEFT, MPEFA, to.

--- Acceptance testing shall be specified by the manufacturer;

--- Reverification tests, specified by the user.

Indication error (FR, FT, FA) and the maximum permissible error (MPEFR, MPEFT, MPEFA) units with the "m" represents.

4.2 Environmental conditions

Coordinate measuring machine installation site affect the measurement of environmental conditions, such as temperature, air humidity and vibration permitted limited to.

--- Acceptance testing shall be specified by the manufacturer;

--- Reverification tests, specified by the user.

Acceptance or reverification tests for the detection, user defined free to choose within the

specified environmental conditions.

GB/T 16857.3-2009/ISO 10360-3:2000