

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

JJG 626-2003

Replacing JJG 626-1989

Verification Regulation of Measuring Instrument for Axial Clearance of Ball Bearings (English Translation)

Issued on: September 23, 2003

Implemented on: March 23, 2004

Issued by: The General Administration of Quality Supervision, Inspection
and Quarantine issued, This regulation was approved by the General
Administration of Quality Supervision, Inspection and Quarantine on
September 23, 2003, and

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Appendix A Clearance Standards and Extreme Values Outline and Technical Requirements (6)

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Ball bearing axial clearance measuring instrument verification procedures

1 Scope

This procedure is applicable to the axial clearance of ball bearings with an outer diameter D

of the tested bearing (9~250) mm and a graduation value of 1 μ m.

The first test, subsequent verification and in-use test of the measuring instrument (referred to as the clearance device, the same below).

2 Citations

This procedure refers to the following documents.

JJF1001-1998 General measurement terms and definitions JJF1059-1999 Measurement Uncertainty Evaluation and Representation GB 307.2-1995 Principles and methods for measurement and inspection of rolling bearings JB/T 5307-1991 General technical requirements for rolling bearing measuring instruments JB/T 6643-1993 Rolling bearing four-point contact ball bearing axial clearance JJG 34-1996 indicator table JJF1094-2002 Measuring instrument characteristic evaluation when using this procedure, care should be taken to use the current valid version of the above cited documents.

3 Overview

The clearance gauge is a special instrument for measuring the axial clearance of radial ball bearings. Its structure is mainly composed of indicator table and positioning machine Structure; the measuring principle is the outer ring of the fixed bearing, which is read by the indicator table by loading the upper and lower sides of the bearing inner ring respectively.

Bearing clearance value. The basic shape and principle are shown in Figure 1 (instrument outline) and Figure 2 (instrument schematic).

4 Metrological performance requirements

4.1 Loading force

The loading force does not exceed $\pm 10\%$ of the nominal value.

4.2 Pressing table and pressure ring

4.2.1 The surface roughness Ra of the pressure plate and pressure ring working surface is not more than 0.6 μ m.

4.2.2 The flatness of the working face of the pressure ring is not more than 10 μ m.

4.2.3 The parallelism of the two working faces of the pressure ring is not more than 20 μ m.

4.2.4 The distance between the working face of the upper pressure ring and the working surface of the lower pressure ring is not more than 25 μ m.

4.2.5 The relative position and movement range of the pressure table relative to the pressure ring is not less than the maximum clearance value measurable by the instrument.

4.3 indicator

The indicator is in accordance with the relevant national metrological technical regulations.

4.4 Maximum allowable error the maximum allowable error is shown in Table 1.

4.5 indication variability