

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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Replacing JJG 471-1986

Verification Regulation of Bearing Inside and Outside Diameter Testers (English Translation)

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Bearing internal and external diameter inspection instrument verification procedures

1 Scope

This procedure is applicable to inner and outer diameter inspection instruments (referred to as inner and outer diameter instruments) with indexing values of 0.5 μ m and 1 μ m.

First verification, subsequent verification and in-use inspection.

2 Citations

This specification 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 Technical conditions for JB/T 5310-1991 rolling bearing internal (outer) diameter measuring instrument JJG 118-1996 torsion spring type comparator JJG 39-1990 mechanical comparator JJF1094-2002 measuring instrument characteristics evaluation JJG 34-1996 indicator JJG 396-2002 Inductance Micrometer when using this procedure, care should be taken to use the current valid version of the above cited documents.

3 Overview

The inner and outer diameter gauges are special instruments for measuring the inner and outer diameters of rolling bearings by comparison method. The basic shape is shown in Figure 1.

And Figure 2. The inner diameter gauge can also be measured for outside diameter by the probe conversion device. The structure of the inner and outer diameter meters is mainly determined by the indicator, the measuring head, the positioning fulcrum (fixed probe, auxiliary probe) and the workbench are composed.

4 Metrological performance requirements

4.1 Inner diameter gauge force

4.1.1 Force range (0.1~3.5)N.

4.1.2 When the force is adjusted to 3N, the force measurement does not change within the 40 μ m measurement range of the indicator (torsion spring comparator).

More than 0.9N.

4.1.3 The measurement force of the inner diameter meter for the outer diameter measurement is not more than 2N.

4.2 Surface roughness of the probe working surface the surface roughness Ra of each working face of the probe is not more than 0.1 μm .

4.3 Height difference between the measuring head and the positioning fulcrum relative to the working surface of the table the height difference between the measuring head and the positioning fulcrum relative to the working surface of the table is not more than 0.2 mm.

4.4 Flatness of the work surface of the workbench