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JJG

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

JJG 49-2013

Replacing JJG 49-1999

**Verification Regulation of Elastic Element Precise Pressure
Gauges and Vacuum Gauges
(English Translation)**

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Introduction

JJF1002 "national verification procedures write rules", JJF1001 "common measurement terms and definitions" JJF1059 "Evaluation and Expression of Uncertainty in Measurement" series together constitute the basic norms of the regulations revision.

This procedure combined with China's national conditions, the use of the International Organization of Legal Metrology (OIML) International Recommendation R109 "with the elastic element pressure gauge and vacuum gauge (standard instrument) "part of the content. This procedure is in JJG 49-1999 "bomb Reed precision pressure gauge and vacuum gauge "on the basis of retention under the premise of effective content revision. This Regulation Cheng compared with JJG 49-1999, in addition to editorial changes, the major technical changes are as follows.

- Press JJF1002-2010 requirements, increasing the content of the Preamble;
- Procedure applies to all precision pressure gauge and test the elastic element type vacuum table;
- Delete the contents of the measuring range upper limit of the range;
- Remove the 0.06 content;
- Improve the content of the overview;
- Refine the test conditions;
- Straighten out the order of test items and test methods;
- Added "test certificate/test results within the notice page format and" Appendix;
- Remove the precise gauge tolerances calculated value list.

The previous versions of the release JJG 49-1999 case.

- JJG 49-1987.

The elastic element precision pressure gauge and vacuum meter testing procedures

1 Scope

The order applies to the elastic element precision pressure gauge and vacuum gauge (hereinafter referred to as precision table) initial verification, after Continued use of verification and inspection.

2. References

This procedure references the following documents.

JJF1008-2008 pressure measurement terminology and definitions GB/T 1227-2010 precision pressure gauges for dated references, only the dated edition applies to this procedure; undated reference documents Member, the latest edition (including any amendments) applies to this procedure.

3 terminology and units of measurement

3.1 Terms

3.1.1 pressure gauge resilient element (can be referred to. pressure gauge)
elastic element pressure gauge Elastic sensitive element to measure the pressure of the pressure sensitive element of the instrument. [JJF1008-2008 the definition 4.1] 3.1.2 elastic deformation Within the elastic limit of the range, when the force is canceled, the elastic sensing element can be restored to its original state and size the phenomenon.

3.2 units of measurement Legal units of measurement precision tables used as Pa (Pascal), or its decimal multiples units. kPa, MPa Etc; for precision test table sphygmomanometer, blood pressure table can kPa and mmHg double scale units of measurement.

4 Overview

Precision pressure gauge is mainly used test in general, it can also be used in liquid or gas pressure and vacuum precision measurement.

Precision is the working principle of the elastic sheet-sensitive element (e.g., spring tube) elastically deformed under pressure, the role of its shape and size of the pressure variables into a linear relationship, through a transmission mechanism amplified by the pointer in the indexing plate on indicates the pressure measured. Elastic sensing element commonly used precision sheet spring tube, but other forms may be used Type elastic sensitive element.

5 metering performance requirements 5.1 accuracy class and the maximum permissible error the level of accuracy and precision of the table should be consistent with the maximum permissible errors specified in Table 1.