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

**GB/T 34876-2017**

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**Vacuum technology -- Vacuum gauges -- Evaluation of the  
uncertainties of results of calibrations by direct comparison  
with a reference gauge**

真空技术 真空计 与标准真空计直接比较校准结果的不确定度评定  
(English Translation)

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## Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the translation method identical with ISO 27893:2011 "Vacuum

technology vacuum gauge and standard vacuum gauge directly compare the calibration junction Uncertainty assessment of fruit. " this standard is proposed by the China Machinery Industry Federation.

This standard by the National Vacuum Technology Standardization Technical Committee (SAC/TC18) centralized.

This standard drafting unit. China Aerospace Science and Technology Corporation Fifth Institute of the five hundred and eleven Institute, China Institute of Metrology, Hefei Zhihai Optoelectronics Technology Co., Ltd., Beijing North Innovative Vacuum Technology Co., Ltd., Weihai Mitutoyo Vacuum Technology Co., Ltd., Shenyang Vacuum Institute of Technology.

## 1 Scope

This standard gives guidance on the evaluation and reporting of measurement uncertainty, which is in accordance with ISO/T S3567 and the standard Airship directly compare the calibration of the vacuum gauge.

This standard describes the method of reporting the uncertainty of the vacuum gauge certificate. The uncertainty given by this standard can be borrowed from one another, ie, one the uncertainty of the result evaluation can be used as a component of the uncertainty assessment in another measurement or calibration procedure. The first result can also be used for this Measurement and calibration process.

The two measurement models defined in this standard are sufficient to cover the vast majority of instances, but may not be suitable for newly developed gauges.

The uncertainty reported in the final certificate is obtained by assessing the uncertainty of input and impact. This standard describes the shadow in detail the major amount of the results of the calibration of the vacuum gauge does not list all possible quantities that affect the final result.

Note The calibration of special types of vacuum gauges will be covered in the technical specifications in the future.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO/T S3567 vacuum gauge and the standard vacuum gauge direct comparison and calibration (Vacuumgauges-Calibrationbydirect comparisonwithareferencegauge) ISO/IEC Guide 98-3, Measurement Uncertainty Part 3. Guidance on Measurement Uncertainty (GUM.1995) [Uncer-taintyofmeasurement-Part 3:

Guidetotheexpressionofuncertaintyinmeasurement (GUM.

1995)]

ISO/IEC Guide99:2007 International Journal of Metrology Vocabulary Basic and Common Concepts and Related Terms (VIM) [International vocabulary of metrology-Basic and general criteria and associated devices (VIM)]

### 3 Terms and definitions

ISO/T S3567, ISO/IEC Guide98-3, ISO/IEC Guide99 and the following terms and definitions apply to this file.

Corrected indication the value of vacuum gauge after system error correction obtained value.

Example. Refer to the results given in the standard calibration certificate.

Long-term instability Changes that may occur after a long period of calibration.

Examples. Changes caused by device shipping.

**Note:** Long-term instability is not the same as the repeatability defined in ISO/IEC Guide 99:2007, 3.7.