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

GB/T 46081-2025

**Vacuum technology - Vacuum gauges - Specifications,
calibration and measurement uncertainties for spinning rotor
gauges**

真空技术 真空计 磁悬浮转子真空计的规范、校准和测量不确定度
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to ISO 24477:2025 "Vacuum technology - Vacuum gauges - Specifications, calibration and measurement of magnetically suspended rotor vacuum gauges". Certainty".

Introduction

This document is an extension of ISO 3567 for describing the characteristics of magnetically suspended rotor vacuum gauges (SRGs) for use in calibration or as reference vacuum gauges. and a supplement to ISO 27893.

Magnetic levitation rotor vacuum gauges are used to measure high vacuum and medium vacuum pressure. Use this type of vacuum gauge for pressure value transmission and measurement.

For medium and high vacuum pressures, it is recommended to provide the relevant parameters, calibration results and uncertainties specified in this document.

1 Scope

This document defines the terms related to the magnetic suspension rotor vacuum gauge (SRG) [2]-[4], specifies the parameters required for the SRG, and describes in detail the calibration procedures and required uncertainty components for these vacuum gauges are given in this document.

This document is applicable up to a pressure limit of 2 Pa.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

ISO 3529-1 Vacuum technology - Vocabulary - Part 1: Basic terms General terms)

Note: GB/T 3163-2024 Vacuum technical terminology (ISO 3529-1:2019, ISO 3529-2:2020, ISO 3529-3:2014, MOD)

ISO 3529-3 Vacuum technology - Vocabulary - Part 3: Total and partial pressure vacuum gauges

Note: GB/T 3163-2024 Vacuum technical terminology (ISO 3529-1:2019, ISO 3529-2:2020, ISO 3529-3:2014, MOD)

ISO 3567 Vacuum technology - Direct comparison calibration of vacuum gauges with standard vacuum gauges

Note: GB/T 34873-2017 Vacuum gauge calibration by direct comparison with a standard vacuum gauge (ISO 3567:2011, IDT)

ISO 27893 Vacuum technology - Evaluation of the uncertainty of calibration results by direct comparison of vacuum gauges with standard vacuum gauges

Note: GB/T 34876-2017 Vacuum technology Vacuum gauge and standard vacuum gauge direct comparison calibration results uncertainty assessment (ISO 27893:2011, IDT)

ISO /IEC Guide 98-3 Uncertainty in measurement Part 3: Guide to the expression of uncertainty in measurement (GUM..1995)

Note: GB/T 27418-2017 Evaluation and expression of uncertainty in measurement (ISO /IEC Guide 98-3:2008, MOD)

ISO /IEC Guide 99 International Vocabulary of Metrology Basic and General Concepts and Related Terms (VIM) [Internationalvocabu-

IEC 60050 (300-311) International Electrotechnical Vocabulary - Electrical and electronic measurements and instrumentation - Part 311: General terms for measurement

Note: GB/T 2900.77-2008 Electrical terminology Electrical and electronic measurement and instrumentation Part 1: General terminology for measurement [IEC 60050(300-311).2001,IDT]

IEC 60050 (300-312) International Electrotechnical Vocabulary - Electrical and electronic measurements and instrumentation - Part 312: General techniques for electrical measurement