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

GB/T 42567.5-2025

**Reference conditions and procedures for testing industrial and
process measurement transmitters - Part 5: Specific
procedures for flow transmitters**

(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 part 5 of GB/T 42567 "Reference conditions and procedures for testing industrial process measurement transmitters".

The following parts have been published.

- Part 1: Common procedures for all types of transmitters;
- Part 2: Specific procedures for pressure transmitters;
- Part 3: Specific procedures for temperature transmitters;
- Part 4: Specific procedures for level transmitters;
- Part 5: Specific procedures for flow transmitters.

This document is equivalent to IEC 62828-5:2020 "Reference conditions and procedures for testing industrial process measurement transmitters Part 5: Flow Transmitter Specific Procedures.

Introduction

Most current standards for industrial process measurement transmitters are old and based on analog transmitters.

At the same time, many industrial process measurement transmitters are also evolving and are very different from analog transmitters. they are usually digital and have a lot of computational complexity.

The sub-part (mainly digital electronic circuits) and the measurement part (mainly mechanical structure) include more functions and newer interfaces.

There are some standards related to digital transmitters for process measurements, but suitable test methods for certain performance aspects are still lacking.

The existing test standards for industrial process measurement transmitters are scattered documents, so it is difficult for manufacturers and users to identify and select it is difficult, impractical and time consuming to select all transmitter standards for measuring a specific

process quantity (pressure, temperature, flow, level, etc.).

In order to solve the above problems, better use for manufacturers and users, and provide systematically for different types of industrial process measurement transmitters, to provide a comprehensive test method, GB/T 42567 is intended to consist of the following five parts.

--- Part 1: Common procedures for all types of transmitters. The purpose is to provide all types of transmitters used provide reference conditions and a procedural framework for the tests.

--- Part 2: Specific procedures for pressure transmitters. Intended for use in measurement and control systems in industrial processes and machinery the pressure transmitter provides reference conditions and procedures for specific tests.

--- Part 3: Specific procedures for temperature transmitters. Intended for use in measurement and control systems in industrial processes and machinery the temperature transmitter provides reference conditions and procedures for specific tests.

--- Part 4: Specific procedures for level transmitters. Intended for use in measurement and control systems in industrial processes and machinery the level transmitter provides specific test reference conditions and procedures.

--- Part 5: Specific procedures for flow transmitters. Intended for use in measurement and control systems in industrial processes and machinery the flow transmitter provides reference conditions and procedures for specific tests.

In the process of formulating the GB/T 42567 series of standards, GB/T 18271 (all parts) "Process measurement and control equipment" was adopted.

Many test procedures in the "General Performance Evaluation Methods and Procedures" were revised and necessary improvements were made.

Reference conditions and test conditions for industrial process measurement transmitters
Procedures Part 5: Specific procedures for flow transmitters

1 Scope

This document specifies specific test procedures for flow transmitters used in measurement and control systems in industrial process and machinery control systems.

For general test procedures, please refer to GB/T 42567.1-2023, which is applicable to all types of industrial process measurement transmitters.

This document, together with GB/T 42567.1-2023, constitutes the reference standard for testing all types of flow transmitters, not only for liquid Suitable for gases and steam.

In this document, "industrial flow transmitters" covers all types of flow used in measurement and control systems of industrial processes and machinery.

Transmitter.

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.

GB/T 42567.1-2023 Reference conditions and procedures for testing industrial process measurement transmitters Part 1: All types of transmitters Common procedures (IEC 62828-1:2017, IDT) Weighing method Note. GB/T 17612-1998 Measurement of liquid flow in closed pipes - Gravimetric method (ISO 4185:1980, IDT) Note. GB/T 27025-2019 General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017, IDT) IEC 61987-12 Industrial process measurement and control Data structures and elements in process equipment catalogs Part 12: Flow measurement Note. GB/T 20818.12-2020 Data structure and elements in the catalog of industrial process measurement and control process equipment Part 12: Flow measurement equipment List of Attributes (LOPs) for electronic data interchange (IEC 61987-12:2016, MOD)

3 Terms and definitions

The terms and definitions defined in GB/T 42567.1-2023 and the following apply to this document.

The URLs for terminology databases used for standardization maintained by ISO and IEC are as follows.