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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 25922-2023

Measurement of fluid flow in closed conduits - Flowrate measurement by means of vortex shedding flowmeters inserted in circular cross-section conduits running full

封闭管道中流体流量的测量 用安装在充满流体的圆形截面管道中的涡街流量计测量流量

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Standardization Administration of the PRC

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents" Drafting. This document replaces GB/T 25922-2010 "Measurement of fluid flow in closed pipes using circular cross-section pipes filled with fluid." Method of measuring flow with vortex flowmeter in the channel. Compared with GB/T 25922-2010, in addition to structural adjustments and editorial changes, the main The technical changes are as follows:

---Deleted the terms "range", "minimum local pressure", "response time" and "decay" (see 3.4, 3.7, 3.11,.2010 version) 3.12);

---Added the content of integrated temperature and pressure sensitive components in the flow meter components (see 6.1.1.4);

---Added the specific content of instrument output (see 6.1.2);

---Added content regarding the length of upstream and downstream straight pipe sections required for installation pipelines (see 8.3.1);

---Deleted the requirement that the flow meter should be installed coaxially with the pipeline (see

8.2.3 of the.2010 edition);

---Deleted the requirement for multi-pipeline installation (see

8.2.4 of the.2010 edition);

--- Added requirements to consider the impact of valve type on fluid pressure (see 8.3.3);

---Deleted the requirement for flow meter overpressure protection (see

8.2.9 of the.2010 edition);

--- Added requirements for the installation location of electronic devices (see 8.3.7);

1 Scope

GB/T 25922-2023 covers flow measurement with vortex shedding flowmeters in full circular pipes. The vortex meter counts the eddies shed alternately from a bluff body in the stream, at a frequency proportional to velocity over a wide range and largely independent of the fluid - which makes it the general purpose meter for steam, gas and clean liquids. Its limits are where the standard earns its place: below a Reynolds number the vortices are not regular and the meter simply stops reading, and cavitation, swirl and an undeveloped profile all shift the calibration. The standard sets the principle with the bluff body, the sensing element and the Strouhal number, the marking and safety issues, and the instructions for use covering the sizing, pressure loss and cavitation, swirl and undeveloped profiles, the installation, the calibration and the uncertainty. It replaces GB/T 25922-2010 and took effect

on 1 March 2024.

a) Describes methods of measuring liquid, gas and steam flow rates using vortex flowmeters, giving terminology and a series of criteria for determining performance. formula;

b) Provides technical information that helps users select and use vortex flowmeters, including information on influencing quantities;

c) Describes the typical structure of a vortex flowmeter and provides recommendations for inspection, certification and material traceability;

d) Describes the practicality of vortex flowmeter diagnostic techniques;

e) Calibration guidelines are provided;

f) Not applicable to insertion vortex flowmeter;

g) Applicable only to closed full pipelines;

h) Applicable only to stable or slowly changing fluid flow over time;

i) Applies to fluids considered to be single phase.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 17611-1998 Measurement terms and symbols for fluid flow in closed pipes (

ISO 4006.1991, IDT) ISO /IEC Guide99.2007(JCGM200.2012) International Basic Terminology of Metrology (VIM) [Internationalvo-

3 Terms and definitions

The following terms and definitions as defined in ISO 4006 and ISO /IEC Guide99.2007 (JCGM200.2012) apply to this document. document. ISO and IEC maintain standardized terminology databases at.