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

GB/Z 35588-2017

**Measurement of wet gas flow by means of pressure differential
devices inserted in circular cross-section conduits**

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Foreword

This instructional document has been drafted in accordance with the rules given in GB/T 1.1-2009.

This guideline uses the translation method identical with ISO /T R11583.2012 "with a differential pressure mounted in a circular sectioned pipe

Set the measurement of wet gas flow. "

Our document, which corresponds in a consistent manner to the international documents that are normative references in this Guidance Document, is as follows.

--- GB /Z 35140-2017 fluid flow measurement using differential pressure device GB/T 2624 outside the area of the orifice, nozzle and venturi

Guidelines for using tubes (ISO /T R15377.2007, IDT)

--- GB/T 17611-1998 Measurement of fluid flow in closed conduits Terms and symbols (idtISO 4006.1991)

--- GB/T 26801-2011 closed pipe fluid flow measurement between the primary device and secondary device pressure signal transmission

Connection Method (ISO 2186.2007, IDT)

This guidance document is proposed by China Machinery Industry Federation.

This Guidance Document is governed by the National Technical Committee for Measurement, Control and Automation of Industrial Processes (SAC/TC124).

The guiding technical document is drafted by Shanghai Institute of Industrial Automation Instrumentation.

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Cangnan Instrument Group East Star Energy Technology Co., Ltd., Zhejiang Tianxin Instrument Technology Co., Ltd., Shanghai Instrumentation Automatic Control System Test By, Dandong Tongbo Electric Group, Zhejiang Jinlong Control Equipment Co., Ltd.

Introduction

Part 1 of GB/T 2624-2006 "Measurement of Manifold Fluid Flow with Differential Pressure Devices Installed in Circular Cross-Sectional Ducts", Part 2

Section 4 and Section 4 contain provisions for venturi and orifice plates, but only for the measurement of full pipe single phase fluids.

If the measured fluid is a wet gas, it will produce "virtual high", which can be corrected by the corresponding wet gas correction equation.

With the installation of circular cross-section of the pipe in the differential pressure device

Measure wet gas flow

1 Scope

This guidance document provides a method for measuring the flow of wet gas using a differential pressure device installed in a circular sectioned pipe.

This guidance is applicable to gas-liquid two-phase mixed fluids (6.4.3, 6.4.5, 7.5.3) with a gas volume percentage of 95% or more

And 7.5.5 gives a clear limitation of the mixed fluid). This Guidance Document is a supplement to GB/T 2624. 6.4.1 and 7.5.1 to

The range of gases and liquids used for the derivation of the formulas in this guidance is presented. These formulas may not be suitable for use with test liquids

Different liquids, especially high viscosity liquids.

Although the correction formulas given in this guidance document are applicable to most gases and liquids with comparable gas-liquid density ratios,

For gas flow, not only is it necessary to evaluate the information required for a single-phase fluid, but also other information is needed. Under some conditions it is only necessary to measure the pressure loss

The tracer can be used to measure the flow of liquid; the total mass flow of the fluid is known (as compared to natural gas/liquid fluids, wet steam fluids are more likely to have

This requirement); dampening calorimeters can be used in wet steam fluids.

This guidance document includes the measurement of wet gas using a venturi or orifice plate.

This guidance document is applicable only to wet gas containing one liquid and is not suitable for use in the oil and gas industry.

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.

GB/T 2624.1-2006 Measurement of full pipe fluid flow using differential pressure devices installed in circular sectioned pipes - Part 1. General

Principles and requirements (ISO 5167-1:2003, IDT)

GB/T 2624.2-2006 Measurement of full pipe fluid flow using a differential pressure device installed in a circular sectioned pipe - Part 2 - Orifice

(ISO 5167-2:2003, IDT)

GB/T 2624.4-2006 Manifold fluid flow measurement using differential pressure devices installed in circular sectioned pipes - Part 4 Venturi

In tube (ISO 5167-4:2003, IDT)

ISO 2186 Measurement of fluid flow in closed conduits Connection of pressure signals between primary and secondary units (Fluid

flow in closed conduits - Connections for pressure signal transmissions between primary and secondary

elements

ISO 4006 closed pipe fluid flow measurement terms and symbols

(Measurement of fluid flow in closed con-

duits - Vocabulary and symbols)

ISO /T R15377 Fluid Flow Measurement with Differential Pressure Devices Use of Orifices, Nozzles and Venturi Beyond ISO 5167

Guideline

(Measurement of fluid flow by means of pressure-differential devices - Guidelines for the specification of orifice plates, nozzles and Venturi tubes beyond the scope of ISO 5167)

3 Terms and definitions

ISO 4006 and GB/T 2624.1-2006 define the following terms and definitions apply to this

document.

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