

ICS 17.120.10

CCS N 12



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

GB/Z 33902-2017

**Measurement of fluid flow by means of pressure differential devices --
Guidelines on the effect of departure from the specifications and
operating conditions given in GB/T 2624 and the correction methods**

Issued on: July 12, 2017

Implemented on: February 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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Foreword

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

This Guidance Document is equivalent to translation method ISO /T R12767.2007 "Measurement of Fluid Flow Deviation Using Differential Pressure Devices

ISO 5167 given the requirements and working conditions impact guide. "

The following editorial changes have been made to this technical document.

--- Change the name of the document to "Use differential pressure devices to measure fluid flow deviations from the requirements and working conditions given in GB/T 2624

Ring and its correction method. "

This guidance document corrects editorial errors in ISO /T R12767-2007.

--- Figure 2 is not drawn in the curve, the document to draw a curve;

--- 6.4.4 Last line, add "%" after 0.5 and 0.078;

--- formula (4) Δq_m and ΔD to Δq_m , ΔD ;

--- Figure 7 of β to Δ .

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.

The guidance of technical documents to participate in the drafting unit. Beijing Ruipu ternary Instrument Co., Ltd., Fujian Run Precision Instrument Co., Ltd., Jiangsu

Provincial Quality and Technical Supervision gas flow measurement and testing center,
Jiangyin throttling Plant Co., Ltd., Shanghai Weier Tai Industrial Automation Co., Ltd.

Division, Shenyang North Star Instrument Manufacturing Co., Ltd., Tianxin Instrument
Group Co., Ltd., Tianjin Xinke Complete Instrument Co., Ltd. Zhejiang Cangnan instrument
set

Group Co., Ltd.

Introduction

GB/T 2624 (all parts) provides for the use of differential pressure device to measure the
flow method. Observe the provisions of GB/T 2624 (all parts)

The uncertainty of the flow measurement can be within a limited range. However, if the flow
measurement device, for whatever reason, deviates

GB/T 2624 (all parts) under the conditions specified may not be able to achieve the
required uncertainty. Many measuring devices are not present or not

Law consistent with these conditions. In such cases, it is often not possible to accurately
assess the effects of deviations. However, there is a lot of data available

To illustrate the impact does not meet GB/T 2624 (all parts), the contents of this document
as a guide to the flow measurement device

user.

Use differential pressure to measure fluid flow

Deviate from the requirements given in GB/T 2624 and

Influence of Working Conditions and Correction Methods

1 Scope

This guidance is given in the guidance of technical documents using the structure and
working conditions beyond the scope of GB/T 2624 differential pressure device to measure
flow guide.

Additional tolerances or amendments do not necessarily compensate deviations from the
provisions of GB/T 2624 (all parts) of the impact. This guideline technique

The information given in the document first describes the effects that will be caused by the
non-conformity of the requirements to specify the necessary requirements for the
manufacture, installation and maintenance of DP devices

The second is to enable users who can not fully meet the requirements to generally
estimate the size and scope of the resulting traffic error.

Each of the changes described in this guidance document is considered the only change that has occurred. If it is known that there are multiple changes, it may be saved

In unpredictable interactions, special attention needs to be paid when evaluating these errors in combination. If there is a considerable amount of error, it must be

Consider ways to eliminate some of these errors. The changes included in this guidance document are not exhaustive and relate mainly to the fact that the orifice

example. An example of a venturi is given at the end of the chapter. There is no doubt that the device does not meet GB/T 2624 (all parts)

There are many similar examples, no disclosure of any comparable data. Such additional letters are obtained from users, manufacturers or other sources

Interest rates may be considered in the next version of this guidance document.

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 2624.3-2006 Manifold fluid flow measurement using a differential pressure device mounted in a circular sectioned pipe - Part 3. Nozzle

And Venturi nozzle (ISO 5167-3:2003, IDT)

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

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

3 Terms and definitions

GB/T 2624.1-2006 defined and the following terms and definitions apply to this document.

3.1

Square edge

The angular relationship between the orifice of the flow measurement device and the upstream end face is $90^{\circ} \pm 0.3^{\circ}$.

3.2

Sharpness sharpness

The radius of the edge between the orifice of the flow measurement device and the upstream face.

Note. When the edge radius is not more than $0.0004d$, the upstream edge of the orifice can be considered as a sharp edge, and d means the orifice diameter.