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

GB/T 2624.4-2006

Replacing GB/T 2624-1993

**Measurement of fluid flow by means of pressure differential
devices inserted in circular cross-section conduits running full
- Part 4: Venturi tubes**

用安装在圆形截面管道中的差压装置测量满管流体流量 第4部分:文丘里管
(English Translation)

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1 Scope

This part of GB/T 2624 specifies the geometry and method of use (installation and operating conditions) of Venturi tubes when they are inserted in a conduit running full to determine the flowrate of the fluid flowing in the conduit.

This part of GB/T 2624 also provides background information for calculating the flowrate and is applicable in conjunction with the requirements given in GB/T 2624.1.

This part of GB/T 2624 is applicable only to Venturi tubes in which the flow remains subsonic throughout the measuring section and where the fluid can be considered as single-phase. In addition, each of these devices can only be used within specified limits of pipe size, roughness, diameter ratio and Reynolds number. This part of GB/T 2624 is not applicable to the measurement of pulsating flow. It does not cover the use of Venturi tubes in pipes sized less than 50 mm or more than 1 200 mm, or where the pipe Reynolds numbers are below 2×10^5 .

This part of GB/T 2624 deals with the three types of classical Venturi tubes:

- a) cast;
- b) machined;
- c) rough welded sheet-iron.

A Venturi tube is a device which consists of a convergent inlet connected to a cylindrical throat which is in turn connected to a conical expanding section called the "divergent". The differences between the values of the uncertainty of the discharge coefficient for the three types of classical Venturi tube show, on the one hand, the number of results available for each type of classical Venturi tube and, on the other hand, the more or less precise definition of the geometric profile. The values are based on data collected many years ago. Venturi nozzles (and other nozzles) are dealt with in GB/T 2624.3.

2 Normative references

The following referenced documents are indispensable for the application of this part of GB/T 2624. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 2624.1-2006 Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements (ISO 5167-1:2003, IDT)

GB/T 17611-1998 Measurement of fluid flow in closed conduits - Vocabulary and symbols (idt ISO 4006:1991)