***भारतीय मानक***

***Indian Standard***

**IS 14615 (Part 1) : 2024**

**ISO 5167-1 : 2022**

***पूर्ण भरे बहाव वाली वृत्ताकार अनुप्रस्थ काट की वाहिकाओं में विभेदक दबाव उपकरणों के माध्यम से द्रव प्रवाह मापन***

***भाग 1 सामान्य सिद्धांत एवं अपेक्षाएं***

*( दूसरा पुनरीक्षण )*

**Measurement of Fluid Flow by Means of Pressure Differential Devices Inserted in Circular Cross Section Conduits Running Part 1 : General Principles and Requirements**

( *Second Revision )*

ICS 17.120.10

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भारतीय मानक ब्यूरो

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**September 2024 Price Group X**

Hydrometry Sectional Committee, WRD 01

NATIONAL FOREWORD

This standard (Part 1) (*Second Revision*) which is identical to ISO 5167-1 : 2022 ‘Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full Part 1 : General principles and requirements (*Second Revision*)’ issued by the International Organization for Standardization (ISO). This standard was adopted by the Bureau of Indian Standards on the recommendation of the Hydrometry Sectional Committee and was approved by the Water Resources Division Council.

This standard was originally published in 1999, based on ISO 5167-1 : 1991. The first revision was undertaken in 2018 to align it with the then latest version of ISO 5167-1 : 2003. This second revision has been undertaken to align it with the latest version of ISO 5167-1 : 2022.

This standard is published in five parts. Other parts in this series are:

Part 2 Orifice Plates

Part 3 Nozzle and Venturi nozzles

Part 4 Venturi tubes

Part 5 Cone meters

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

1. Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard; and
2. Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference to certain International Standards appears for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated:

|  |  |  |
| --- | --- | --- |
| *International Standard* | *Corresponding Indian Standard* | *Degree of Equivalence* |
| ISO 5167-2: 2003 Measurement of fluid flow by means of pressure  differential devices inserted in circular cross-section conduits  running full - Part 2: Orifice plates | IS 14615 (Part 2): 2018 Measurement of fluid flow by means of pressure differential devices inserted in circular cross section conduits running full: Part 2 Orifice plates | Identical |
| ISO 5167-3: 2022 Measurement of fluid flow by means of pressure differential devices inserted in  circular cross-section conduits running full — Part 3 : Nozzles and Venturi nozzles | IS 14615 (Part 3): 2024 Measurement of fluid flow by means of pressure differential devices inserted in circular cross section conduits running full — Part 3 Nozzles and Venturi nozzles | Identical |
| ISO 5167-4: 2003 Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full Part 4: Venturi tubes | IS 14615 (Part 4): 2018 Measurement of Fluid Flow by Means of Pressure Differential Devices Inserted in Circular Cross Section Conduits Running full Part— 4 Venturi Tubes | Identical |
| ISO 5168: 2005 Measurement of fluid flow — Procedures for the evaluation of uncertainties | IS 17288: 2021 Measurement of Fluid Flow- Procedures for Evaluation of Uncertainties | Identical |

The technical committee responsible for the preparation of this standard has reviewed the provisions of the following ISO/IEC standard and has decided that they are acceptable for use in conjunction with this standard:

|  |  |
| --- | --- |
| *International Standard* | *Title* |
| ISO 4006 : 1991 | Measurement of fluid flow in closed conduits – Vocabulary and symbols |
| ISO/IEC Guide 98-3 | Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM: 1995) |

For the purpose of determining whether a particular requirement of this standard is complied with the final value, observed or calculated expressing the result of a test or analysis shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.