

Fluid flow in closed conduits — Connections for pressure signal transmissions between primary and secondary elements

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Fluid flow in closed conduits — Connections for pressure signal transmissions between primary and secondary elements

*Débit des fluides dans les conduites fermées — Liaisons pour la
transmission du signal de pression entre les éléments primaires et
secondaires*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2186 was prepared by Technical Committee ISO/TC 30, *Measurement of fluid flow in closed conduits*, Subcommittee SC 2, *Pressure differential devices*.

This second edition cancels and replaces the first edition (ISO 2186:1973), which has been technically revised.

Introduction

The primary devices are flow meters described in ISO 5167 (all parts).

A secondary device in this context receives a differential pressure signal from a primary device and can display the differential pressure value and convert it into a signal of a different nature, i.e. an analogue or digital signal, to transmit the value of the differential pressure to another location.

Fluid flow in closed conduits — Connections for pressure signal transmissions between primary and secondary elements

1 Scope

This International Standard sets out provisions for the design, lay-out and installation of a pressure signal transmission system, whereby a pressure signal from a primary fluid flow device can be transmitted by known techniques to a secondary device safely and in such a way that the value of the signal is not distorted or modified.

2 Normative references

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

ISO 4006, *Measurement of fluid flow in closed conduits — Vocabulary and symbols*

ISO 5167-1:2003, *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 5167-2, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 2: Orifice plates*

ISO 5167-3, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 3: Nozzles and Venturi nozzles*

ISO 5167-4, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 4: Venturi tubes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4006 and ISO 5167-1 and the following apply.

3.1

secondary device

device which receives a differential pressure signal from a primary device, may display the differential pressure value and may convert it into a signal of a different nature, i.e. an analogue or digital signal, to transmit the value of the differential pressure to another location

4 General principles

4.1 Safe containment

The differential pressure signal shall be transmitted in a safe manner within a pipe or tubing to the secondary device. This requires that the fluid between the primary and secondary device be safely contained. Safe containment of the fluid requires conformity to the applicable standards and codes and requires the selection of the proper materials of construction, the fabrication methods and practices and any required gaskets and