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Second edition
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Measurement of fluid flow in closed conduits — Velocity-area methods of flow measurement in swirling or asymmetric flow conditions in circular ducts by means of current-meters or Pitot static tubes

Mesurage de débit des fluides dans les conduites fermées — Mesurage de débit dans les conduites circulaires dans le cas d'un écoulement giratoire ou dissymétrique par exploration du champ des vitesses au moyen de moulinets ou de tubes de Pitot doubles



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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 7194 was prepared by Technical Committee ISO/TC 30, *Measurement of fluid flow in closed conduits*, Subcommittee SC 5, *Velocity and mass methods*.

This second edition results from the reinstatement of ISO 7194:1983 which was withdrawn in 2003 and with which it is technically identical.

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Introduction

In order to carry out measurements of the flow-rate of single phase fluids in closed pipes by velocity-area methods, using either current-meters or Pitot static tubes, with satisfactory accuracy (e.g. of the order of $\pm 2\%$), it is usually necessary to choose a measuring plane where the velocity distribution approaches that of fully developed flow (see ISO 3354 and ISO 3966).

There are, however, some cases where it is practically impossible to obtain such a flow distribution, but where as good as possible a measurement of the flow-rate is desirable.