TECHNICAL REPORT

ISO TR 11328

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Measurement of liquid flow in open channels — Equipment for the measurement of discharge under ice conditions

Mesure de débit des liquides dans les canaux découverts — Équipement pour le mesurage du débit en présence de glace

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Contents

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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.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 11328, which is a Technical Report of type 3, was prepared by Technical Committee ISO/TC 113, *Hydrometric determinations*, Subcommittee SC 5, *Flow measuring instruments and equipment*.

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Measurement of liquid flow in open channels — Equipment for the measurement of discharge under ice conditions

1 Scope

This Technical Report deals with equipment used to measure water discharge in rivers and channels under ice conditions. It does not specify techniques for measurement and computation which are dealt with in various International Standards. ISO 9196 specifically deals with the methods for the measurement of flow under ice and this Technical Report is intended to be used with ISO 9196.

The most common technique for determining flow under ice conditions uses a modified form of the velocity-area method. This Technical Report concentrates on the specialized equipment required for gaining access through the ice sheet and obtaining area, velocity, and other information for determining the rate of flow under ice.

2 References

ISO 748:1979, Liquid flow measurement in open channels - Velocity area methods.

ISO 772:1988, Liquid flow measurement in open channels - Vocabulary and symbols.

ISO 1100/1:1981, Liquid flow measurement in open channels - Part 1: Establishment and operation of a gauging station.

ISO 1100/2:1982, Liquid flow measurement in open channels - Part 2: Determination of the stage-discharge relation.

ISO 2537:1988, Liquid flow measurement in open channels - Cup-type and propeller-type current meters.

ISO 3454:1983, Liquid flow measurement in open channels – Direct depth sounding and suspension equipment.

ISO 3455:1976, Liquid flow measurement in open channels - Calibration of rotating-element current-meters in straight open tanks.