
International Standard



8363

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**Liquid flow measurement in open channels —
General guidelines for the selection of methods**

Mesure de débit des liquides dans les canaux découverts — Principes directeurs généraux pour le choix d'une méthode

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8363 was prepared by Technical Committee ISO/TC 113, *Measurement of liquid flow in open channels*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Liquid flow measurement in open channels — General guidelines for the selection of methods

1 Scope and field of application

This International Standard gives general guidelines for the selection of a suitable method for liquid flow measurements in open channels. More specific guidelines are contained in International Standards relevant to each method.

2 Methods of measurement

Methods which are suitable for liquid flow measurements in open channels and which form the subjects of International Standards¹⁾ are as follows :

- 1) Velocity-area method by wading.
- 2) Velocity-area method from a bridge.
- 3) Velocity-area method using a cableway.
- 4) Velocity-area method using a static boat.
- 5) Velocity-area method using a moving boat.
- 6) Velocity-area method using floats.
- 7) Slope-area method.
- 8) Ultrasonic method.
- 9) Electromagnetic method.
- 10) Dilution method with a chemical tracer (continuous injection).
- 11) Dilution method with a chemical tracer (sudden injection).
- 12) Dilution method with a radioactive tracer (sudden injection).
- 13) Dilution method with a radioactive tracer (continuous injection).
- 14) Cubature method.
- 15) Thin-plate weirs (sharp crest, V-notch).
- 16) Thin-plate weirs (sharp crest, rectangular, with suppressed side contractions).
- 17) Thin-plate weirs (sharp crest, rectangular, with side contractions).
- 18) Weirs (broad-crested with sharp upstream edge).
- 19) Weirs (broad crested with rounded upstream edge).
- 20) Weirs (triangular profile).
- 21) Weirs (triangular profile, flat-V).
- 22) Weirs (V-shaped, broad-crested).
- 23) Flumes (rectangular throated).
- 24) Flumes (trapezoidal throated).
- 25) Flumes (U-shaped throat).
- 26) Free overfalls, end-depth method (rectangular and non-rectangular channels).

3 Principles of measurement

3.1 Velocity-area methods

3.1.1 Methods using current-meters

The velocity and cross-sectional area of flow in an open channel are measured. The discharge is determined from the product of this velocity and area.

The velocity may be measured by a current-meter. When measurements using current-meters are not feasible, the velocity is measured by floats.

3.1.2 Moving boat method

The moving boat method employs a modification of the conventional current-meter measurements in the velocity-area

1) See the bibliography for a list of these International Standards.