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Australian Standard™

Measurement of water flow in open channels

Part 2.3: General—Determination of the stage-discharge relationship

[ISO title: Liquid flow measurement in open channels, Part 2: Determination of the stage-discharge relationship]

Standards Australia

This Australian Standard was prepared by Committee CE-024, Measurement of Water Flow in Open Channels and Closed Conduits. It was approved on behalf of the Council of Standards Australia on 25 September 2000 and published on 12 March 2001.

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Australian Water and Wastewater Association

Department of Natural Resources, Qld

Institute of Instrumentation and Control Australia

Department of Land and Water Conservation, New South Wales

Department of Public Works and Services, New South Wales

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Australian Standard™

Measurement of water flow in open channels

Part 2.3: General—Determination of the stage-discharge relationship

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PREFACE

This Standard was prepared by the Standards Australia Committee CE-024, Measurement of Water Flow in Open Channels and Closed Conduits.

This Standard is identical to and is reproduced from ISO 1100-2:1983, *Liquid flow measurement in open channels*, Part 2: *Determination of the stage-discharge relationship*

This Standard is Part 2.3 of AS 3778, *Measurement of water flow in open channels*, which is published in parts as follows:

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3778.2	Part 2:	General
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References to International Standards should be replaced by references to equivalent Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
1000	SI units and recommendations for the use of their multiples and of certain other units	1000	The international system of units (SI) and its application
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Part 2.3:
General—Determination of the stage-discharge relationship

1 Scope

This part of ISO 1100 specifies methods of determining the stage-discharge relation for a gauging station. A sufficient number of discharge measurements, complete with corresponding stage measurements, is required to define a stage-discharge relation to the accuracy required by this part of ISO 1100.

Stable and unstable channels are considered, including brief descriptions of the effects on the stage-discharge relation of ice and hysteresis. Methods for determining discharge for tidal-gauge stations, ultrasonic velocity stations, electromagnetic velocity stations, and other complex ratings are not described in detail. These types of rating are described in other International Standards and Technical Reports, namely ISO/TR 9123, ISO 6416 and ISO 9213, as shown in clause 2.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 1100. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 1100 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 31:1992 (all parts), *Quantities, units and symbols*.

ISO 772:1996, *Hydrometric determinations — Vocabulary and symbols*.

ISO 1000:1992, *SI units and recommendations for the use of their multiples and of certain other units*.

ISO/TR 5168: –[1)], *Measurement of fluid flow — Evaluation of uncertainties*.

ISO 6416:1992, *Liquid flow measurement in open channels — Measurement of discharge by the ultrasonic (acoustic) method*.

ISO/TR 9123:1986, *Liquid flow measurement in open channels — Stage-fall-discharge relations*.

ISO 9196:1992, *Liquid flow measurement in open channels — Flow measurements under ice conditions*.

ISO 9213:1992, *Measurement of total discharge in open channels — Electromagnetic method using a full-channel-width coil.*

1) To be published. (Revision of ISO 5168:1978)