AS 3778.6.5—2001
ISO 4373:1995

Australian Standard™

Measurement of water flow in open channels

Part 6.5: Measuring devices, instruments and equipment—Water level measuring devices

[ISO title: Measurement of liquid flow in open channels—Water level measuring devices]

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

South Australian Water Corporation

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Part 6.5: Measuring devices, instruments and equipment—Water level measuring devices

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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 4373:1995, *Measurement of liquid flow in open channels—Water level measuring devices.*

This Standard is Part 6.5 of AS 3778, *Measurement of water flow in open channels*, which is published in parts as follows:

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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	
772	Liquid flow measurement in open channels — Vocabulary and symbols	3778	Measurement of water flow in open channels:
		3778.1	Part 1: Vocabulary and symbols

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AUSTRALIAN STANDARD

Measurement of water flow in open channels

Part 6.5:
Measuring devices, instruments and equipment—Water level measuring devices

1 Scope

This International Standard specifies the functional requirements and operational procedures for stage detecting, encoding and recording devices for measuring water levels in open channels. Because of the widespread use of stilling wells in the measurement of water levels, information on stilling wells is given in annex A to this International Standard.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 772:—[1], *Measurement of liquid flow 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.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 772 and the following definitions apply.

3.1 encoding: Method by which a data signal is changed into a suitable set of bits for data recording.

3.2 parity check: Addition of an extra bit to a data signal so that the total number of bits in a sample are either always even or always odd.

4 Accuracy of stage measurements

For the measurement of stage with respect to a gauge datum, an uncertainty of $\pm$ 10 mm may be satisfactory in some installations: in others, uncertainty of $\pm$ 3 mm or better may be required. However, in no case should the uncertainty be more than $\pm$ 10 mm or 0,1% of the range, whichever is greater. Exceptions can be made if sediment or unstable channel conditions make it impossible to obtain a complete and reliable record with standard equipment, and where special equipment must be used to obtain a complete record but with greater uncertainty (for example, see 8.2).

This clause applies in all cases, unless specifically stated otherwise.

5 Gauge datum

The stage of a stream or lake is the height of the water surface above an established datum plane. The datum of the gauge may be a recognized datum, such as mean sea level, or an arbitrary datum plane selected for the convenience of using gauge readings of relatively low numbers. ISO 1100-1 contains additional requirements regarding gauge datum, gauge zero and benchmarks.

1) To be published. (Revision of ISO 772:1988)