AS 3778.6.2:2022
ISO 3454:2008

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Measurement of water flow in open channels

Part 6.2: Measuring devices, instruments and equipment — Direct depth sounding and suspension equipment (ISO 3454:2008, IDT)

AS 3778.6.2:2022

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Australian Bureau of Meteorology
Australian Hydrographers Association
Australian Industry Group
Department of Planning, Industry and Environment, NSW
Engineers Australia
Institute of Instrumentation, Control & Automation Australia
Irrigation Australia
Joint Accreditation System of Australia & New Zealand
National Measurement Institute
Water NSW

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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, to supersede AS 3778.6.2—1992, *Measurement of water flow in open channels, Part 6.2: Measuring devices, instruments and equipment — Direct depth sounding and suspension equipment*.

The objective of this document is to specify the functional requirements of the equipment, excluding bankside cableway systems, used in the measurement of liquid flow in open channels for sounding (by direct method), and suspending the measuring equipment (e.g. current-meter or sediment sampler) at the point of measurement.

This document is identical with, and has been reproduced from, ISO 3454:2008, *Hydrometry — Direct depth sounding and suspension equipment*.

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The terms "normative" and "informative" are used in Standards to define the application of the appendices or annexes to which they apply. A "normative" appendix or annex is an integral part of a Standard, whereas an "informative" appendix or annex is only for information and guidance.

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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 3454 was prepared by Technical Committee ISO/TC 113, *Hydrometry*, Subcommittee SC 5, *Instruments, equipment and data management*.

This third edition cancels and replaces the second edition (ISO 3454:1983), which has been technically revised.

Introduction

The choice of suspension and sounding equipment depends on the depth of flow, the velocity of the current and the method of discharge measurement (by wading, from a boat, from a manned cableway or from a bridge).

NOTES

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1 Scope

This International Standard specifies the functional requirements of the equipment, excluding bankside cableway systems, used in the measurement of liquid flow in open channels for

a) sounding (by direct method), and

b) suspending the measuring equipment (for example, current-meter or sediment sampler) at the point of measurement.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 772, *Hydrometry — Vocabulary and symbols*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 772 apply.

4 Sounding equipment

4.1 General

To obtain the correct vertical depth of water from surface to bed, either a sounding-rod or a sounding line is used depending on the velocity and depth of flow. The sounding rod can also be a wading rod. For measurements by either sounding rod or wading rod, the rod shall be held in a vertical position. For measurements by sounding line, appropriate weights shall be attached to keep it as close as practicable to vertical. Sounding equipment can also be employed as suspension equipment. Requirements for the deployment of suspension equipment, as described in Clause 5, also apply to sounding equipment.

4.2 Sounding rod, wading rod and sounding line

A sounding rod is a graduated rigid rod with a base plate; it is used for measurement of depths up to 5 m to 6 m in medium velocities (up to 2 m/s). For smaller depths and velocities, a wading rod is used; for greater depths, a sounding line is used.

5 Suspension equipment

5.1 Basic requirements

The basic requirements for making observations in flowing water with the help of meter-suspension equipment are as follows.

a) Measuring equipment shall be placed at the point of measurement in such a way that it does not cause appreciable disturbances, irrespective of the depth of water and velocity of flow.