

Australian Standard[®]

Meters for non-urban water supply

**Part 6: Installation and commissioning
of open channel meters**



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 9 January 2013.
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The following are represented on Committee CE-024:

- Australian Industry Group
 - Australian Water Association
 - Department of Environment and Resource Management, Qld
 - Institute of Instrumentation, Control and Automation Australia
 - Irrigation Australia
 - National Farmers Federation
 - National Irrigators Council
 - National Measurement Institute
 - University of South Australia
 - Water Services Association of Australia
-

This Standard was issued in draft form for comment as DR AS 4747.6.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Part 6: Installation and commissioning of open channel meters

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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 ATS 4747.6—2008. *Meters for non-urban water supply Part 6: Installation and commissioning of open channel meters.*

The objective of the 4747 series of Standards is to provide requirements for the installation and commissioning of irrigation and non-urban water meters to meet the requirements of the National Water Initiative Clause 88.

NMI M 11-1, *Meters Intended for the Metering of Water in Open Channels and Partially Filled Pipes, Part 1: Metrological and Technical Requirements*, specifies the metrological and technical requirements for pattern approval and verification of water meters for compliance with the National Measurement Regulations.

This Standard includes essential requirements that are up to date with current progress in the water meter industry technology.

This document is part of a series of Standards covering the metering of non-urban water supply, as follows:

AS

| | |
|--------|---|
| 4747 | Meters for non-urban water supply |
| 4747.1 | Part 1: Glossary of terms |
| 4747.2 | Part 2: Technical requirements for closed conduit meters fully charged |
| 4747.3 | Part 3: Technical requirements for open channel meters |
| 4747.5 | Part 5: Installation and commissioning of closed conduit meters fully charged |
| 4747.6 | Part 6: Installation and commissioning of open channel meters (this Standard) |
| 4747.8 | Part 8: In-service compliance for non-urban water meters |

The above documents were originally released as Australian Technical Specifications for a period of over two years. Following review and consideration of industry feedback, they have been revised and released as Standards.

Significant changes to the series include the following:

- (a) The method of handling meters that are beyond the limit of what can be practicably pattern-approved has been revised, which applies to AS 4747.2 and AS 4747.3.
- (b) Overlap with the National Measurement Institute (NMI) documents has also been removed, and the NMI documents are to be read in conjunction with the above Standards.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is for information and guidance only.

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STANDARDS AUSTRALIA

Australian Standard

Meters for non-urban water supply

Part 6: Installation and commissioning of open channel meters

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for the installation and commissioning of meters complying with NMI M11-1 and AS 4747.3, for use in non-urban applications in open channel and part-filled pipe applications. The Standard principally covers metering for irrigation water.

Two types of meter installations are covered in this Standard, as follows:

- (a) A 'self-contained unit'—a meter that defines its own geometry, is able to be pattern-approved as a complete water meter, calibrated upon assembly and supplied by a single supplier.
- (b) A 'modular metering system'—a device or group of instruments (which may be supplied as a pattern-approved metering system) that does not define the installation geometry and requires configuration after installation.

NOTES:

- 1 The requirements for these types of meters to demonstrate compliance with this Standard, and hence with the National Framework are set out and illustrated in Section 7 of AS 4747.3.
- 2 Meters with undefined or variable channel are not covered by this Standard.

In this Standard, a meter installation is considered to include—

- (i) the meter, its indicating device and all ancillary equipment; and
- (ii) the upstream and downstream pipe or emplacement that may have a material effect on the meter unit.

The Standard covers meters that operate under the following conditions:

- (A) Open channels.
- (B) Working water temperature range of 0.1°C to 30°C. The maximum admissible temperature is 50°C, which is the limiting condition for the meter.
- (C) Ambient temperature range of –5°C to 55°C.
- (D) Ambient humidity range of 0% to 100% except for remote indicating devices where the range is 0% to 93%.

1.2 APPLICATION

This Standard is intended to be used to meet the requirements of the Australian Water Initiative for metering non-urban water. It shall be read in conjunction with NMI M11-1 and NMI M11-2.

Meters that do not comply with the performance requirements of Section 7 of AS 4747.3 shall comply with this Standard.