Australian Government

MURRAY–DARLING BASIN AUTHORITY

Pattern Approved non-urban Water Meters

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Acknowledgement of the Traditional Owners of the Murray–Darling Basin

The Murray−Darling Basin Authority pays respect to the Traditional Owners and their Nations of the Murray−Darling Basin. We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

The guidance and support received from the Murray Lower Darling Rivers Indigenous Nations, the Northern Basin Aboriginal Nations and our many Traditional Owner friends and colleagues is very much valued and appreciated.

Aboriginal people should be aware that this publication may contain images, names or quotations of deceased persons.

Version control		
Version	**Revision date**	**Author/modifier**
v1	November 2019	MDBA
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Purpose

In June 2018 the Australian Government and the Murray–Darling Basin states agreed to the Murray–Darling Basin Compliance Compact which commits them to actions to strengthen compliance with water management rules in the Basin. The availability and use of water meters that meet the requirements of the relevant Australian Standard is particularly important if the community is to have confidence in water compliance arrangements.

Part three of the Compliance Compact sets out actions related to Metering and Measurement, which include the commitment to publish metering policies and implementation plans addressing meter accuracy, coverage, transmission of data, and a timetable for installation, auditing and maintenance of the meter fleet. It also includes a commitment to report annually on progress with their implementation plans.

This document sets out the range of pattern approved meters currently available in Australia and is directly linked to efforts to meet the requirement of 3.8 of the Compliance Compact:

3.8	The Australian Government and Basin States will work with each other, jurisdictions, testing laboratories, meter manufacturers and industry to set a timetable for delivering a comprehensive range of pattern approved meters.

What is a pattern approved meter?

The National Measurement Institute of Australia checks non-urban water meters for compliance with the Australian Standard for Non-Urban water meters (AS4747). If the meter passes testing, it is pattern approved as compliant with the requirements for closed conduit meters (NMI-M10); or with the requirements for open channel meters (NMI-M11); or with the requirements of equivalent overseas standards. A pattern approved meter complies with these requirements within the operating ranges specified by the meter manufacturer.

Schedule 1. Closed conduit meters

Pattern Approved closed conduit meters

A meter in this category has been tested by an accredited laboratory and met the Australian Pattern Approval requirements (NMI M 10) for Closed Conduit Meters. These meters can be installed within the operating range specified by the meter manufacturer and certified by the National Measurement Institute.

The National Measurement Institute (NMI) maintains the official list of Pattern Approved meters for trade purposes, including for urban and non-urban meters.

The following table describes the *non-urban water meters* which are Pattern Approved by the National Measurement Institute. Using the links marked as *NMI 14/3/XX* in the table, you can download the Pattern Approval certificate documents for each approved meter.

Certificate of Approval number	Meter Model - approved pattern	Meter technology	Meter Model – approved variants and components	Approved Q3 range (m3/h)	Approved nominal Sizes (DN)	Approved orientation	Contacts for technical support from the meter's supplier
NMI 14/3/21	KROHNE Waterflux 3070 Water Meter	Electromagnetic	Krohne Waterflux 3070 flow sensor Krohne IFC 070 signal converter Krohne Waterflux 3070 C	10 - 6300	DN25 – DN600	All	Krohne on (02) 9426 1700
NMI 14/3/24	SIEMENS MAG8000 Water Meter	Electromagnetic	Siemens SITRANS F M MAG8000 signal transmitter Siemens SITRANS F M MAG5100W flow sensor Siemens SITRANS F M MAG8000CT signal transmitter Siemens SITRANS F M MAG8000 Irrigation signal transmitter	63 - 16000	DN25 - DN150 DN200 - DN1200	All Horizontal only	Siemens on 1300 369 515 industryservice.au@siemens.com
NMI 14/3/29	ARAD Octave Water Meter	Ultrasonic	Arad Octave 2 Arad Octave 2 Hardware version 2.4	40 - 1000	DN40 – DN300	All	Netafim on (03) 8331 6516 0484 555 113
NMI 14/3/30	ABB AquaMaster3 FEV2 Water Meter	Electromagnetic	ABB AquaMaster3 FEV2 flow sensor ABB AquaMaster3 signal transmitter ABB WaterMaster signal transmitter	40 - 1000	DN40 – DN200	All	ABB on 1800 222 435

Certificate of Approval number	Meter Model - approved pattern	Meter technology	Meter Model – approved variants and components	Approved Q3 range (m3/h)	Approved nominal Sizes (DN)	Approved orientation	Contacts for technical support from the meter's supplier
NMI 14/3/32	AQUAMONIX (includes Pentair; Tyco & Emflex brands) I500 Water Meter	Electromagnetic	Aquamonix I500 flow transmitter Aquamonix IR2060 flow sensor Aquamonix IR2020 flow sensor Aquamonix IR2030 flow sensor Aquamonix IR2030C flow sensor Aquamonix GM1060 flow sensor	36 - 10800	DN50 – DN1500	Horizontal and Vertical	Aquamonix on 1300 797 246 (02) 8710 4040
NMI 14/3/34	SENSUS WP-Dynamic Water Meter	Inferential turbine	As per meter model	25 - 2000	DN40 – DN400	Horizontal only	Bermad on https://support.bermad.com.au
NMI 14/3/36	EUROMAG MUT 2200 EL Water Meter	Electromagnetic	Euromag MUT 2200 EL flow sensor Euromag MUT 2500 EL flow sensor Euromag MC608B indicating flow converter Euromag MC608R indicating flow converter	25 - 3600	DN40 – DN1000	Horizontal only	Bermad on https://support.bermad.com.au

Certificate of Approval number	Meter Model - approved pattern	Meter technology	Meter Model – approved variants and components	Approved Q3 range (m3/h)	Approved nominal Sizes (DN)	Approved orientation	Contacts for technical support from the meter's supplier
NMI 14/3/42	RUBICON Sonaray Pipe Meter	Ultrasonic	Rubicon 74222AD ultrasonic flow tube Rubicon SolarDrive Board 77264 indicating flow computer Rubicon flowtube connection type model: 74220AD Rubicon flowtube connection type model: 74221AD Rubicon flowtube connection type model: 82175 Rubicon flowtube connection type model: 82176 Rubicon flowtube connection type model: 82177 Rubicon flowtube connection type model: 82188 Rubicon flowtube connection type model: 82189	1313	DN600	Horizontal Only	Rubicon on (03) 9832 3000
NMI 14/3/44	ARAD WSTsb Water Meter	Woltman	As per meter model	63 - 1000	DN50 – DN300	Horizontal only	Netafim on (03) 8331 6516 0484 555 113
NMI 14/3/46	ABB AquaMaster4 Water Meter	Electromagnetic	ABB AquaMaster4 model signal transmitter FET4XX			All	ABB on 1800 222 435
			ABB electromagnetic flow sensor FEW4XX.R (reduced bore, rubber lined)	25 – 1600	DN40 - DN300		
			ABB electromagnetic flow sensor FEW4XX.V (virtual full bore, polypropylene lined)	25 - 1000	DN40 - DN200		

Certificate of Approval number	Meter Model - approved pattern	Meter technology	Meter Model – approved variants and components	Approved Q3 range (m3/h)	Approved nominal Sizes (DN)	Approved orientation	Contacts for technical support from the meter's supplier
NMI 14/3/49	KROHNE Optiflux 2300C Water Meter	Electromagnetic	Krohne IFC 300 signal converter Krohne Optiflux 2000 flow sensor Krohne Optiflux 4000 flow sensor Krohne Optiflux 2300C (compact arrangement) Krohne Optiflux 4300C (compact arrangement) Krohne Optiflux 2000F (remote arrangement) Krohne Optiflux 4000F (remote arrangement)	16 - 25000	DN25 – DN1800	All	Krohne on (02) 9426 1700
NMI 14/3/50	SIEMENS MAG5100W with MAG6000CT Water Meter	Electromagnetic	Siemens SITRANS F M MAG5100W flow sensor Siemens SITRANS F M MAG6000CT signal transmitter Siemens SITRANS F M MAG5000CT signal transmitter Some flow sensor sizes will bear part numbers starting with FDK:083XXX	63 - 16000	DN25 – DN300 DN350 – DN1200	All Horizontal only	Siemens on 1300 369 515 industryservice.au@siemens.com
NMI 14/3/52	ELSTER Q4000 Water Meter	Electromagnetic	Elster Q4000 Elster Q4000B	63 - 1000	DN50 – DN200	Horizontal only	Honeywell via Steve Vasiliadis - 0419 002 760 Kris Tully - 0418 749 736 Jason Lindsay - 0418 278 391

Certificate of Approval number	Meter Model - approved pattern	Meter technology	Meter Model – approved variants and components	Approved Q3 range (m3/h)	Approved nominal Sizes (DN)	Approved orientation	Contacts for technical support from the meter's supplier
NMI 14/3/53	ENDRESS+HAUSER Promag W400 Water Meter	Electromagnetic	Endress+Hauser Promag W400 water meter Endress+Hauser Promag W flow sensor Endress+Hauser Promag 400 transmitter	16 - 6300	DN25 – DN800	All	Endress & Hauser on QLD: (07) 3457 0200 NSW/ACT: (02) 8877 7000 VIC/TAS: (03) 9263 8000 SA/NT: (02) 8877 7050 WA: (08) 6350 2200
NMI 14/3/54	ZENNER BIL WPD Water Meter	Woltman	As per meter model	25 - 1000	DN50 – DN300	Horizontal and Vertical Note: orientation alters the approved flow rate range	HR Products on 1800 486 837 hrsales@hrproducts.com.au

Provisionally approved closed conduit meters

A meter in this category has been tested by an accredited laboratory but it does NOT YET fully meet the Australian Pattern Approval requirements (NMI M 10) for Closed Conduit Meters. These meters may be installed within the operating range specified by the meter manufacturer and the National Measurement Institute will issue additional conditions on the Provisional Approval certificate.

CAUTION: Meters in this category may not be accepted as pattern approved meters for the purposes of state and territory metering requirements. When the National Measurement Institute issues an unconditional certificate of compliance, the meters can be accepted.

Certificate of approval number	Meter Model / Meter technology	Provisionally Approved sizes (DN = internal pipe diameter in millimetres)	Maximum continuous (Q3) flowrates m^3/h

Note: No closed conduit meters currently have provisional pattern approval

Schedule 2. Open channel meters

Pattern Approved open channel meters

A meter in this category has been tested by an accredited laboratory and met the Australian Pattern Approval requirements (NMI M 11) for Open Channel Meters. These meters can be installed within the operating range specified by the meter manufacturer and certified by the National Measurement Institute.

Certificate of approval number	Meter Model / Meter technology	Approved sizes (Channel dimensions)	Approved maximum continuous (Q3) flowrates m^3/h

Note: No open channel meters currently have pattern approval

Provisionally approved open channel meters

A meter in this category has been tested by an accredited laboratory but it does NOT YET fully meet the Australian Pattern Approval requirements (NMI M 11) for Open Channel Meters. These meters may be installed within the operating range specified by the meter manufacturer and the National Measurement Institute will issue additional conditions on the Provisional Approval certificate.

CAUTION: Meters in this category may not be accepted as pattern approved meters for the purposes of state and territory metering requirements. When the National Measurement Institute issues an unconditional certificate of compliance, the meters can be accepted.

Certificate of approval number	Meter Model / Meter technology	Provisionally Approved sizes (Channel dimensions)	Maximum continuous (Q3) flowrates m^3/h

Note: No open channel meters currently have provisional pattern approval

Office locations
Adelaide
Albury–Wodonga
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