Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Certificate of Approval
NMI 14/3/35

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

Maddalena Model CD One TRP Water Meter

submitted by Marathon Products Ltd
PO Box 308068
Manly, Auckland 0952
New Zealand

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 49-1 Water meters for cold potable water and hot water, *Part 1 Metrological and technical requirements*, dated September 2015.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 provisionally approved – Interim certificate issued	21/11/16
1	Pattern and variant 1 approved – certificate issued	20/02/17

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number ‘NMI 14/3/35’ and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked ‘NMI P14/3/35’ may be re-marked ‘NMI 14/3/35’ but only by persons authorised by the submittor.

It is the submittor’s responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

A Winchester

TECHNICAL SCHEDULE No 14/3/35

1. Description of Pattern approved on 20/02/17

A DN15 sized Maddalena model CD One TRP water meter (Figure 1) used to measure cold potable water supplies for trade.

1.1 Field of Operation

The field of operation of the measuring system using the DN15 sized Maddalena CD One TRP model water meter is determined by the following characteristics:

Minimum flow rate, Q_1:	0.025 m^3/h
Transition flow rate, Q_2:	0.040 m^3/h
Maximum continuous flow rate, Q_3:	2.5 m^3/h
Overload flow rate, Q_4:	3.125 m^3/h
Flow rate ratio, Q_3/Q_1:	100
Maximum admissible temperature:	50 °C
Maximum admissible pressure:	1600 kPa
Pressure loss class:	Δp 63
Accuracy class:	2
Flow profile sensitivity class:	U0/D0
Orientation:	Horizontal or Vertical
Flow Direction:	Forward

1.2 Features/Functions

The pattern consists of a single-jet flow sensor and a mechanical indicating device (Figure 2) and has features/functions as listed below:

Connection type: threaded end connections

Display: mechanical display allowing for a maximum indication range of 99,999.9999 m^3 in 0.0001 m^3 increments

Verification scale interval: 0.0001 m^3

Communications: the meter incorporates a pulse output at 66.133 pulses per litre.

Materials: body: Brass

indicating device: composite material

Meter length: 110 mm

1.3 Conditions

1.3.1 Installation Conditions:

No flow straightener or flow conditioner is required.

The flow profile class is U0/D0 (Accuracy Class 2).

An optional strainer may be fitted.

1.3.2 Water Quality

The meter is approved for use in the metering of potable water supplies.

1.4 Software Version

Not applicable.

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 Sealing Provision

The meter is mechanically sealed via a crimped plug captured between the shell of the indicating device and the brass meter body (Figure 3). The sealing provided is such that attempts to mechanically access the meter will result in evidence of tampering.

1.7 Descriptive Markings

Instruments shall be marked with the following data, either grouped or distributed on the casing, the indicating device dial or an identification plate:

Manufacturer's name or mark	...
Serial number	...
Pattern approval number	NMI 14/3/35
Numerical value of maximum continuous flow rate, Q_3	...
Flow rate ratio, Q_3/Q_1	...
Unit of measurement	m^3
Pressure loss class (#1)	Δp 63
Maximum admissible pressure	... kPa
Maximum admissible temperature	T50
Direction of flow	→ or similar
Accuracy class (#2)	2

(#1) Optional for meters with pressure loss class Δp 63

(#2) Optional for accuracy class 2 meters

2. Description of Variant 1 approved on 20/02/17

The DN15 sized Maddalena model CD One TRP water meter can also be supplied with a meter length of 120 mm.

TEST PROCEDURE

Water meters tested for initial verification shall comply with the Certificate of Approval, Technical Schedule, and the maximum permissible errors for initial and subsequent verifications at the operating conditions in effect at the time of verification. Maximum permissible errors for the initial and subsequent verification of water meters are given in the *National Trade Measurement Regulations 2009* (Cth).

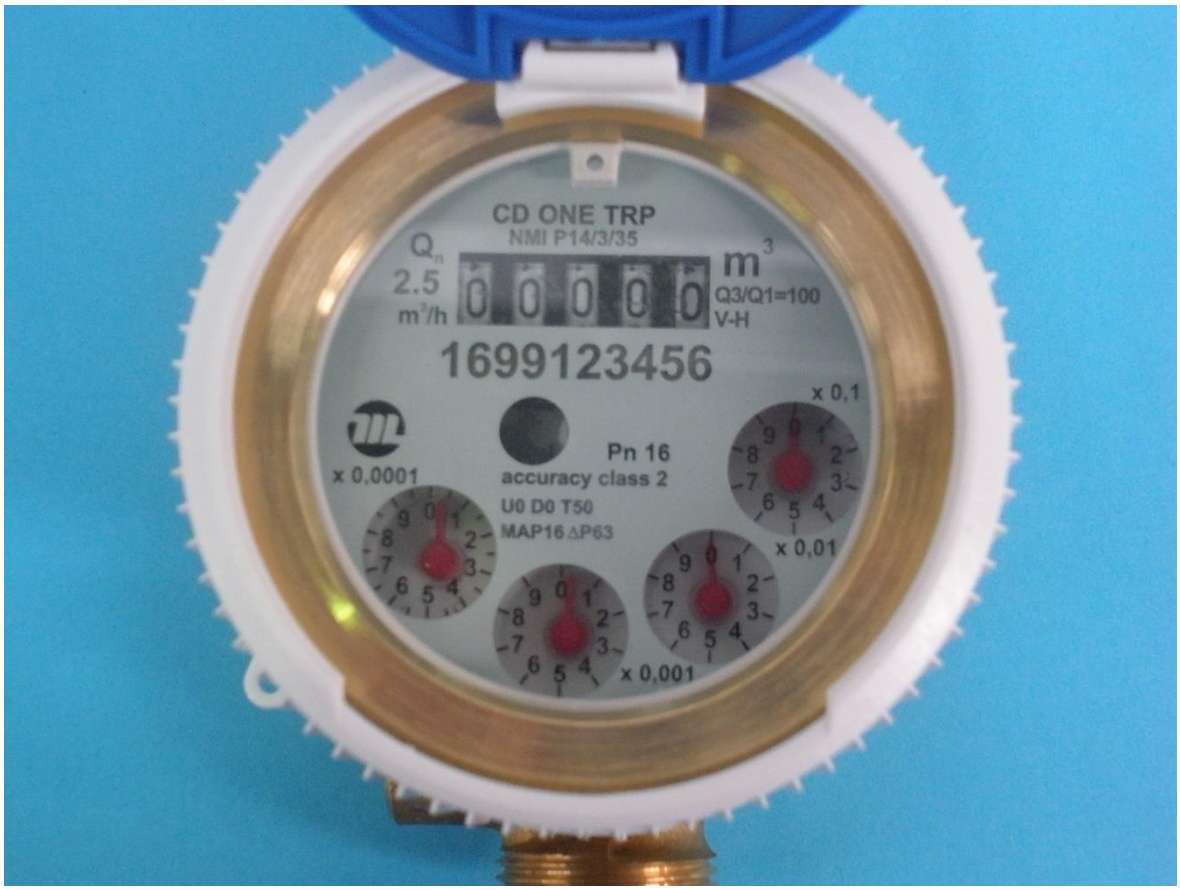
Water meters shall be verified in accordance with NITP 14 *National Instrument Test Procedures for Utility Meters*.

NOTE: NMI reserves the right to vary this procedure. Any such variation shall be notified in writing by NMI.

FIGURE 14/3/35 – 1

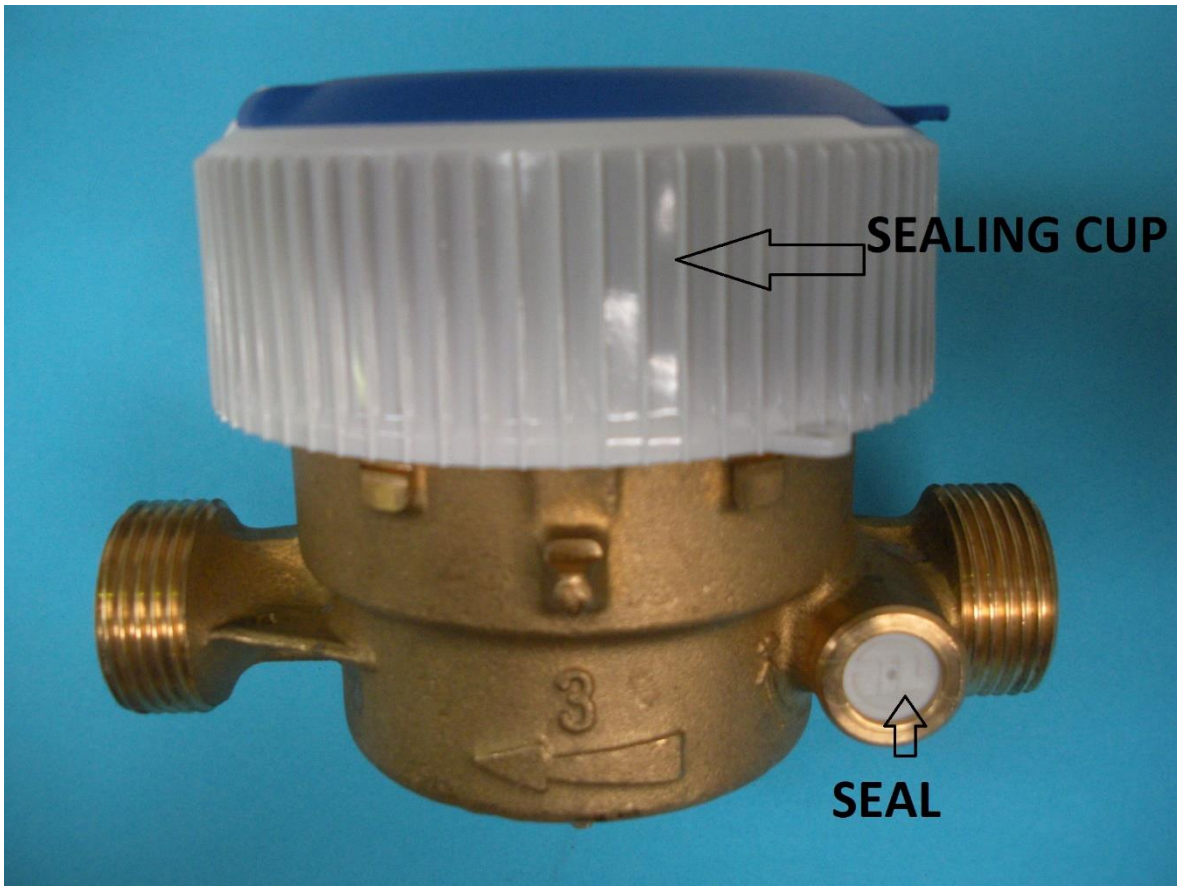
DN15 sized Maddalena CD One TRP model water meter (the pattern)

FIGURE 14/3/35 – 2



Indicating device and markings

FIGURE 14/3/35 – 3



Sealing devices

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