Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Certificate of Approval
NMI 14/3/37

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.

Wasser-Gerate Unimeter UP6004 I Water Meter

submitted by Australasian Smart Meters Pty Ltd
46 Midway Terrace
Pacific Pines QLD 4211
Australia

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 approved – interim certificate issued	26/06/17
1	Variant 2 approved – certificate issued	26/09/17

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/3/37' and 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*.

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TECHNICAL SCHEDULE No 14/3/37

1. Description of Pattern approved on 26/06/17

A DN15 sized Wasser-Gerate Unimeter UP6004 I model water meter used to measure cold potable water for supply for trade.

1.1 Field of Operation

The field of operation of the measuring system using the Unimeter UP6004 I model water meter is determined by the following characteristics:

Minimum flow rate, Q_1:	0.032 m^3/h
Transition flow rate, Q_2:	0.051 m^3/h
Maximum continuous flow rate, Q_3:	1.6 m^3/h
Overload flow rate, Q_4:	2.0 m^3/h
Flow rate ratio, Q_3/Q_1:	50
Maximum admissible temperature:	50 °C
Maximum admissible pressure:	1400 kPa
Pressure loss class:	Δp 63
Accuracy class:	2
Flow profile sensitivity class:	U0/D0
Orientation:	Horizontal and Vertical
Flow Direction:	Forward

1.2 Features/Functions

The pattern (Figure 1) consists of a measuring capsule, Unimeter UP6000, fitted into an in-line brass base. The Unimeter UP6000 measuring capsule (Figure 2 and Figure 3) consists of a multi-jet inferential flow sensor and a mechanical indicating device. The pattern has features/functions as listed below:

Connection type:	Threaded end connections
Display:	A mechanical display allowing for a maximum indication range of 99,999.9999 m^3 in 0.0001 m^3 increments
Material:	Body: brass
	Indicating device: composite material
Meter length:	110 mm

Verification scale interval: 0.0001 m^3

1.3 Conditions

1.3.1 Installation Conditions:

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

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 sealed via the application of a mechanical seal that connects the Unimeter UP6000 measuring capsule to the brass base (Figure 4).

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 (Figure 5):

Manufacturer's name or mark	...
Serial number	...
Pattern approval number	NMI 14/3/37
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 26/06/17

A DN15 Unimeter UP6004 O-I model which consists of a Unimeter UP6000 measuring capsule fitted into a brass manifold base (Figure 6). The Unimeter UP6004 O-I has the same field of operation, features and functions as the pattern, with the exception of the manifold base.

3. Description of Variant 2 approved on 26/09/17

The Unimeter UP6000 meter is approved for use with a Flowis Radio remote reading system.

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 14/3/37 – 1

The Pattern

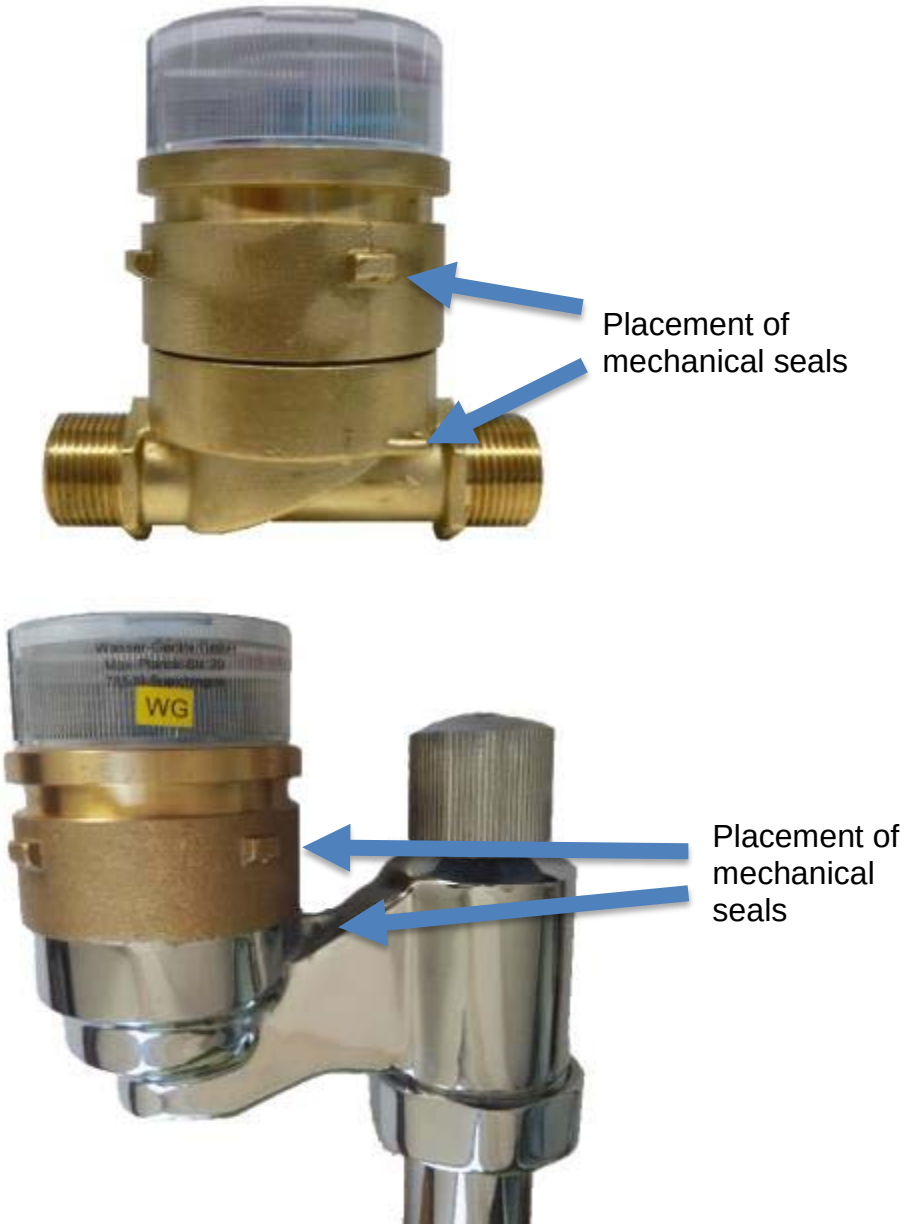
FIGURE 14/3/37 – 2

The Unimeter UP6000 measuring capsule – side view

FIGURE 14/3/37 – 3

The Unimeter UP6000 measuring capsule – top view

FIGURE 14/3/37 – 4



Sealing Provisions

FIGURE 14/3/37 – 5

Markings and Inscriptions

FIGURE 14/3/37 – 6

The Unimeter UP6004 O-I model (with manifold base)

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