



Australian Government

**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Notification of Change

Certificate of Approval No 14/3/6

Change No 1

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

The following changes are made to the approval documentation for the
Sensus Model SR11 Water Meter

submitted by Sensus USA Inc.
 (formerly Sensus Metering Systems Inc.)
 c/o MPM Water Management Systems Pty Ltd
 PO Box 75
 New Brighton NSW 2483.

- A. In Certificate of Approval No 14/3/6 and its Technical Schedule both dated 19 July 2004, all references to the name of the submitter should be amended to read:
 “Sensus USA Inc.”
- B. In Certificate of Approval No 14/3/6 dated 19 July 2004:
1. The Condition of Approval referring to the review of the approval should be amended to read:
 “This approval becomes subject to review on 1 April **2015**, and then every 5 years thereafter.”
2. The FILING ADVICE should be amended by adding the following:
 “Notification of Change No 1 dated 7 July 2011”
- C. In Technical Schedule No 14/3/6 dated 19 July 2004, the references to temperature and pressure limits given in clause **1.1 Field of Operation** should be amended to now read:
- “• Maximum **admissible** temperature 30°C
 - **Limiting condition (water temperature)** 50°C
 - Maximum **admissible** pressure 1400 kPa”

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

A handwritten signature in black ink, appearing to be 'M. J. ...', written over a horizontal line.



Australian Government

**National Measurement
Institute**

12 Lyonpark Road, North Ryde NSW 2113

Certificate of Approval

No 14/3/6

Issued by the Secretary 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
Sensus Model SR11 Water Meter

submitted by Sensus **Metering Systems** Inc.
c/o MPM Water Management Systems Pty Ltd
PO Box 75
New Brighton NSW 2483.

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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 April **2009**, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NSC 14/3/6' and only by persons authorised by the submitter.

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.

The National Measurement Institute reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

DESCRIPTIVE ADVICE

Pattern: approved 19 March 2004

- A Sensus model SR11 class 2 positive displacement meter used to measure water for domestic supply for trade.

Variants: approved 19 March 2004

1. With certain other features/functions.

Technical Schedule No 14/3/6 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 14/3/6 dated 19 July 2004
Technical Schedule No 14/3/6 dated 19 July 2004 (incl. Test Procedure)
Figures 1 to 4 dated 19 July 2004



Signed by a person authorised by the Secretary to exercise his powers under Regulation 60 of the National Measurement Regulations 1999.

A handwritten signature in black ink, consisting of a large, stylized initial 'S' followed by a cursive name.

TECHNICAL SCHEDULE No 14/3/6

Pattern: Sensus Model SR11 Water Meter

Submittor: Sensus Metering Systems Inc.
c/o MPM Water Management Systems Pty Ltd
PO Box 75
New Brighton NSW 2483

1. Description of Pattern

A Sensus model SR11 class 2 positive displacement meter (Figures 1 and 2) used to measure water for domestic supply for trade.

1.1 Field of Operation

The following characteristics determine the field of operation of the measuring system:

- | | |
|---------------------------------------|----------|
| • Maximum continuous flow rate, Q_3 | 4 kL/h |
| • Flow rate ratio, Q_3/Q_1 | 200 |
| • Maximum working temperature | 30°C |
| • Maximum admissible temperature | 50°C |
| • Maximum working pressure | 1400 kPa |
| • Accuracy class | 2 |

1.2 Features/Functions

A positive displacement piston-type class 2 water meter of a size which is normally connected to a 20 mm pipe and is approved for metering domestic supplies and has features/functions as listed below:

- Threaded end connections as normally used in QLD, VIC, TAS, WA and NT.
- A mechanical digital indicator having a series of six aligned digits and one large dial and pointer type display giving a maximum display of 9999.999 kL in 0.1 L increments.
- Meter length of 154 mm.
- Single check valve.

1.3 Markings

Instruments are marked with the following data, either grouped or distributed on the casing, the indicating device dial, an identification plate or the cover if it is not detachable:

Manufacturer's name or mark	...
Serial number	...
Pattern approval mark	NSC 14/3/6
Numerical value of maximum continuous flow rate, Q_3	...
Flow rate ratio, Q_3/Q_1	...
Unit of measurement	kL/h
Direction of flow	→ or similar
Accuracy class	... (#)

(#) Optional for class 2 meters.

1.4 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.5 Sealing Provision

Figure 2 shows the sealing method for the pattern (similar for variant 1 instruments) including using special screws provided. A wire and lead seal may be attached to the drilled cap screws and the drilled aperture for the application of a verification/certification mark.

2. Description of Variant 1

With certain different features/functions to the pattern, as listed below:

- With the indicator housing made of synthetic polymer (Figure 3) rather than brass as in the pattern.
- Threaded end connections as normally used in NSW and ACT (ball seat).
- Threaded end connections as normally used in SA.
- A mechanical digital indicator having a series of eight aligned digits giving a maximum display of 9999.9999 kL in 0.1 L increments and with an absolute encoder for remote reading. The indicator housing may be made of either brass or synthetic polymer (Figure 4).

TEST PROCEDURE

Instruments tested for initial verification shall comply with the Certificate of Approval and Technical Schedule, and the maximum permissible errors for initial and subsequent verifications/certifications at the operating conditions in effect at the time of verification.

All meters shall be tested at flow rates of 30 L/h (± 2 L/h), 500 L/h (± 50 L/h) and 5000 L/h ($-500 +0$ L/h) in the country of origin in a third party accredited facility which has reference standards traceable to primary national standards of the country of origin.

Each batch of meters and the results of the tests of these meters shall be supplied to the verifying authority. The verifying authority shall draw sample meters from the batch of meters supplied. The drawing of such sample meters shall be in accordance with the relevant National Measurement Institute (NMI) document.

All sample meters drawn shall be tested at flow rates of 32 L/h ($-0 +3$ L/h) and 500 L/h (± 50 L/h). A sample of the sample meters shall be tested at flow rates of 20 L/h ($-0 +2$ L/h) and 4000 L/h (± 400 L/h). The disposition of all meters from which the sample meters were drawn shall be determined in accordance with the relevant NMI document.

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

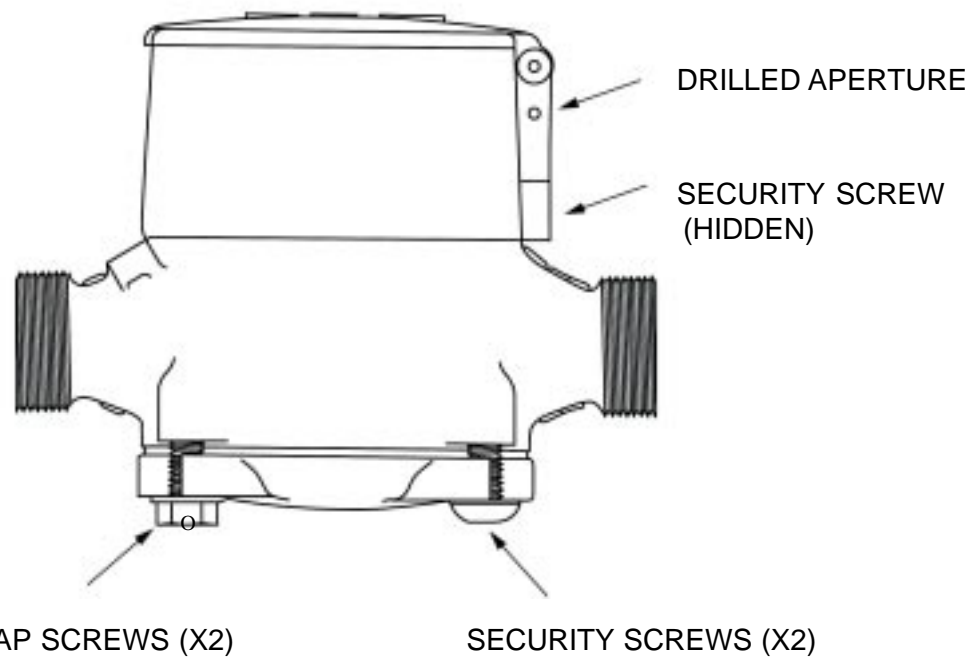
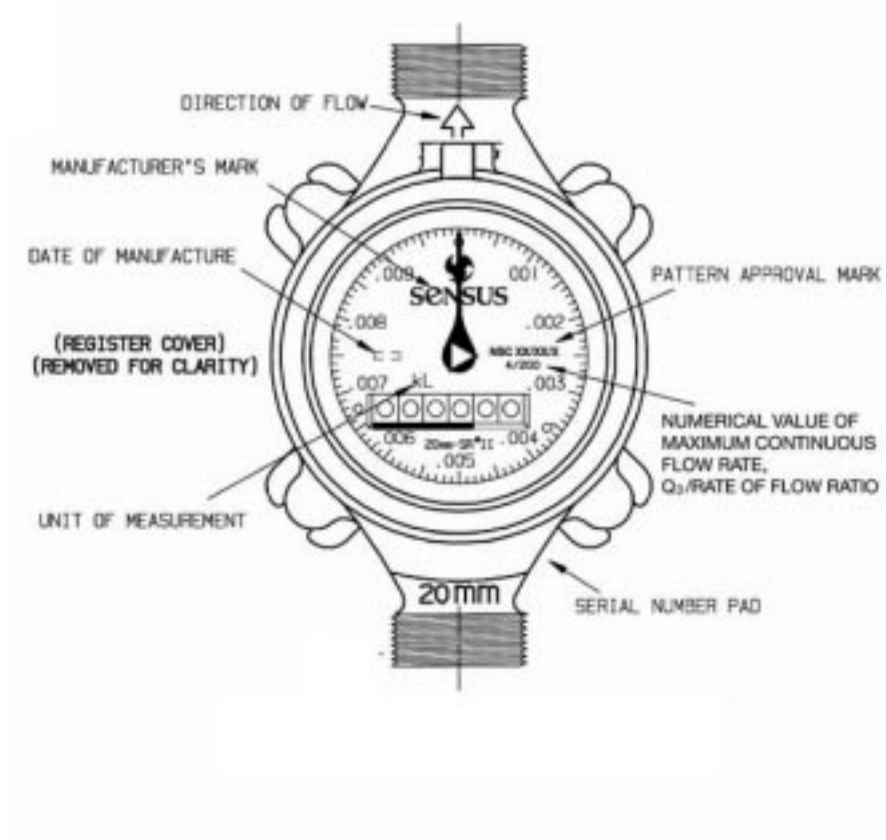
FIGURE 14/3/6 – 1



Sensus Model SR11 Water Meter

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FIGURE 14/3/6 – 2



Showing Marking and Sealing Details (Typical)

FIGURE 14/3/6 – 3



With The Indicator in an Alternative Housing

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FIGURE 14/3/6 – 4



With Absolute Encoder and Alternative Indicator in Alternative Housings