



Australian Government

**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Notification of Change

Certificate of Approval No 14/3/2

Change No 2

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
Ningbo Model LXH-20E Water Meter

submitted by Satobar Pty Ltd
 12 Winslow Crescent
 Deer Park VIC 3023.

1. In Certificate of Approval No 14/3/8 and its Technical Schedule Variation No 2 both dated 21 May 2004, and in Technical Schedule 14/3/2 dated 4 December 2002, and in Technical Schedule 14/3/2 Variation No 1 dated 20 January 2004 all references to the name of the submitter should be amended to now read:

“WINSLOW SERVICES”

The address remains unchanged.

2. In Certificate of Approval No 14/3/8 dated 21 May 2004, the FILING ADVICE should be amended by adding the following:

“Notification of Change No 2 dated 13 January 2009”

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 'J. G. T.', is written over a faint circular stamp.



Australian Government

National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

Certificate of Approval

No 14/3/2

Issued 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

Ningbo Model LXH-20E Water Meter

submitted by **Satobar Pty Ltd**
12 Winslow Crescent
Deer Park VIC 3023.



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 May 2007, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 14/3/2 and only by persons authorised by the submitter.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission 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 the Commission's Document NSC P 106.

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

DESCRIPTIVE ADVICE

Pattern: approved 24 April 2002

- A Ningbo model LXH-20E class 2 positive displacement meter used to measure water for domestic supply for trade.

Variants: approved 24 April 2002

1. With alternative connections.
2. With dual check valves.

Technical Schedule No 14/3/2 describes the pattern and variants 1 & 2.

Variant: approved 26 November 2003

3. For use in an alternative operating position.

Technical Schedule No 14/3/2 Variation No 1 describes variant 3.

Variant: approved 19 March 2004

4. Ningbo model LXHT-20 water meter.

Technical Schedule No 14/3/2 Variation No 2 describes variant 4.

FILING ADVICE

Certificate of Approval No 14/3/2 dated 20 January 2004 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 14/3/2 dated 21 May 2004

Technical Schedule No 14/3/2 dated 4 December 2002 (incl. Test Procedure)

Technical Schedule No 14/3/2 Variation No 1 dated 20 January 2004

Technical Schedule No 14/3/2 Variation No 2 dated 2004

Figures 1 and 2 dated 4 December 2002

Figure 3 dated 21 May 2004

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



TECHNICAL SCHEDULE No 14/3/2

Pattern: Ningbo Model LXH-20E Water Meter

Submittor: Satobar Pty Ltd
12 Winslow Crescent
Deer Park VIC 3023

1. Description of Pattern

A Ningbo model LXH-20E class 2 positive displacement meter (Figure 1) used to measure water for domestic supply for trade.

1.1 Field of Operation

- 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
- Suitable only for horizontal upright operation

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.

- Threaded end connections as normally used in QLD, VIC, TAS, WA and NT.
- A mechanical indicator with digital display having a series of five aligned digits and four dial and pointer type displays (Figure 2) giving a maximum display of 99999.9999 kL in 0.1 L increments.
- Provision for a pulse output of 100 litres per pulse.
- Meter length of 154 mm.
- Suitable only for operation in a horizontal position with the meter upright (i.e. indicator visible from above).

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 No 14/3/2
Numerical value of maximum continuous flow rate, Q_3	...
Flow rate ratio, Q_3/Q_1	...
Unit of measurement	kL
Direction of flow	→ or similar
Accuracy class	... (#)

(#) Optional for class 2 meters.

1.4 Verification/Certification

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

1.5 Sealing Provision

Instruments shall include one or more devices which can be sealed so as to prevent dismantling or modification of the instrument without damaging the device(s). The device(s) may incorporate the verification/certification mark. Figure 1 shows a typical method.

2. Description of Variants

2.1 Variant 1

With threaded end connections as normally used in NSW and ACT (ball seat).

2.2 Variant 2

With dual check valves.

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.

TESTS

All meters shall be tested at flow rates of 20 (-0 +2 L/h), 32 (-0 +3 L/h), and 500 L/h (± 50 L/h). Sample meters shall be drawn from all meters which are within the maximum permissible errors at the above flow rate. The drawing of such sample meters shall be in accordance with a sampling plan determined by the Commission.


All sample meters drawn shall be tested at flow rates of 4000 L/h (± 400 L/h) and 5000 L/h (-500 +0 L/h). The disposition of all meters from which the sample meters were drawn shall be determined in accordance with the relevant Commission Document.

When ten successive batches totalling not less than 5000 meters pass the above tests with less than 1% failure per batch, the Commission may determine that verification using a Commission-approved sampling plan (where not all meters are tested) can be implemented.

TECHNICAL SCHEDULE No 14/3/2

VARIATION No 1

Pattern: Ningbo Model LXH-20E Water Meter

 **Submittor:** Satobar Pty Ltd
12 Winslow Crescent
Deer Park VIC 3023

1. Description of Variant 3

A Ningbo model LXH-20E class 2 positive displacement meter used to measure water for domestic supply for trade as described for the pattern but approved for use in an alternative operating position.


1.1 Field of Operation

Instruments of variant 3 are approved with the characteristics that determine the field of operation of the measuring system as listed for the pattern in clause **1.1 Field of Operation** of Technical Schedule No 14/3/2 dated 4 December 2002, except that they are now NOT restricted to use only for horizontal upright operation.

TECHNICAL SCHEDULE No 14/3/2

VARIATION No 2

Pattern: Ningbo Model LXH-20E Water Meter

 **Submittor:** Satobar Pty Ltd
12 Winslow Crescent
Deer Park VIC 3023

1. Description of Variant 4

A Ningbo model LXHT-20 class 2 positive displacement concentric meter (Figure 3) used to measure water for domestic supply for trade as described for the pattern but designed to screw into a manifold.

1.1 Field of Operation

Instruments of variant 4 are approved with the characteristics that determine the field of operation of the measuring system as listed for the pattern in clause **1.1 Field of Operation** of Technical Schedule No 14/3/2 dated 4 December 2002, except that they are now NOT restricted to use only for horizontal upright operation.



Australian Government
National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 14/3/2
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
Ningbo Model LXH-20E Water Meter

submitted by Satobar Pty Ltd
 12 Winslow Crescent
 Deer Park VIC 3023.

In Certificate of Approval No 14/3/2 dated 21 May 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 May **2012**, and then every 5 years thereafter."
2. The FILING ADVICE should be amended by adding the following:
 "Notification of Change No 1 dated 2 October 2007"

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 'J. H. T.', is located in the bottom right corner of the page.

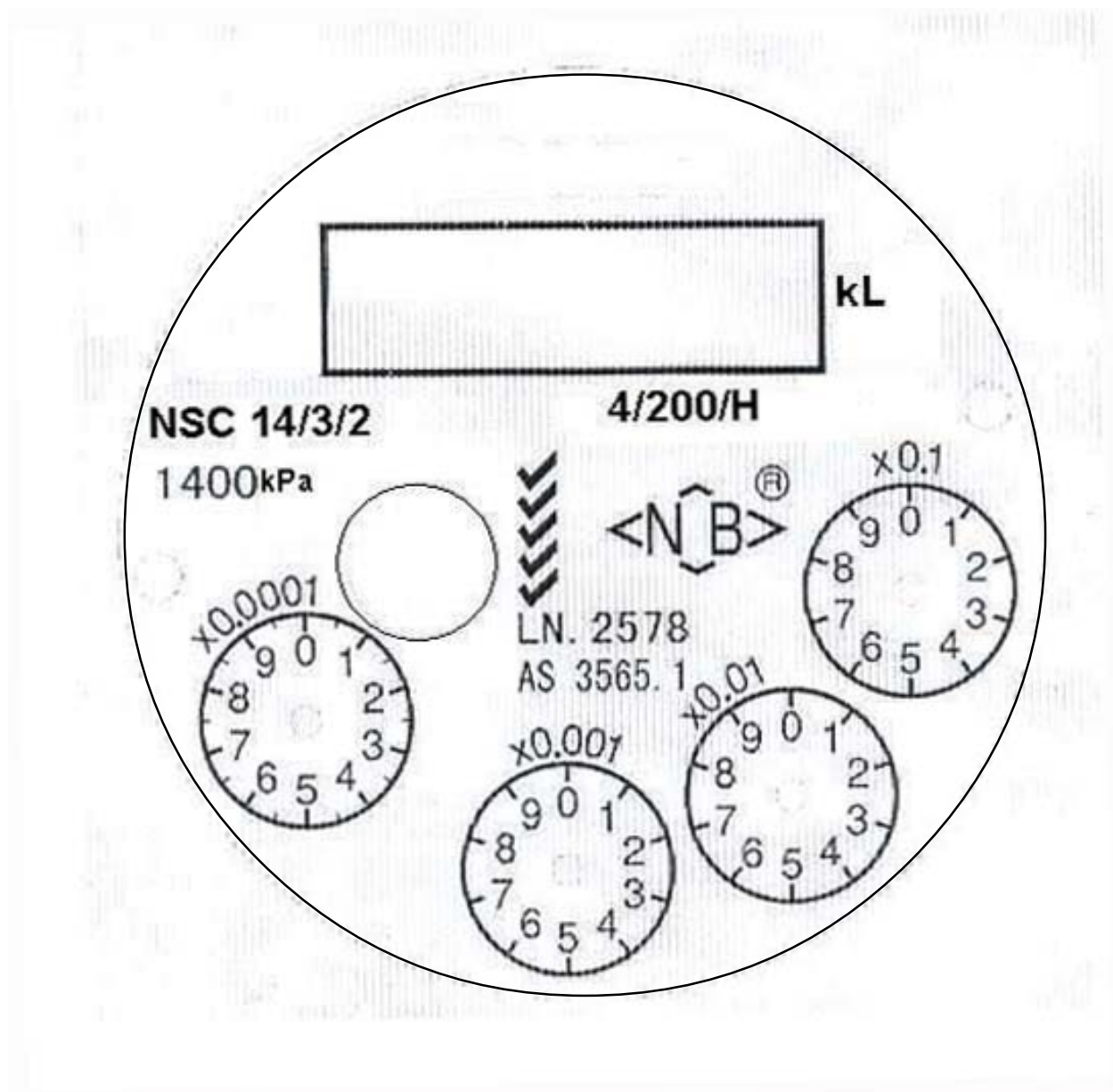
FIGURE 14/3/2 - 1



Ningbo Model 20 MM LXH-20E Water Meter

14/3/2
4 December 2002

FIGURE 14/3/2 - 2



Ningbo Model 20 MM LXH-20E Water Meter Dial Face

14/3/2
21 May 2004

FIGURE 14/3/2 – 3



Ningbo Model LXHT-20 Water Meter