# National Standards Commission

## Certificate of Approval

## No 6/4D/269

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Teraoka Seiko Model SM-70 Weighing Instrument

submitted by W W Wedderburn Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130.

**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 is subject to review on or after 1/6/98.
This approval expires in respect of new instruments on 1/6/99.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/269 and only by persons authorised by the submittor.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

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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 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 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 25/5/93

- A Teraoka Seiko model SM-70 multi-interval self-indicating price-computing weighing and printing instrument of 15 kg maximum capacity.

**Variants:** approved 25/5/93

1. Certain other models of the SM-70 series.
2. With the load cell and mounting in an alternative housing.
3. With a number of instruments connected in a network.
4. As a single-interval instrument with baseworks and capacities as listed in Table 1.

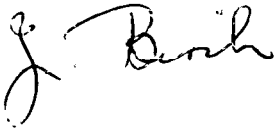
Technical Schedule No 6/4D/269 describes the pattern and variants 1 to 4.

## FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/4D/269 dated 23/7/93
Technical Schedule No 6/4D/269 dated 23/7/93 (incl. Table 1 and Test Procedure)
Figure 1 dated 23/7/93

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



# National Standards Commission

TECHNICAL SCHEDULE No 6/4D/269

**Pattern:** Teraoka Seiko Model SM-70 Weighing Instrument.

**Submittor:** W W Wedderburn Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130.

## 1. Description of Pattern

A Teraoka Seiko model SM-70 multi-interval self-indicating price-computing weighing and printing instrument (Figure 1) with a verification scale interval ($e_1$) of 0.002 kg up to 6 kg and with a verification scale interval ($e_2$) of 0.005 kg from 6 kg up to the maximum capacity of 15 kg. Instruments have unit price to $999.99/kg, price to $9999.99, a price-look-up (PLU) facility, and may be fitted with output sockets for the connection of peripheral and/or auxiliary devices.

### 1.1 Zero

Zero is automatically corrected to within ±0.25e whenever power is applied and whenever the instrument comes to rest within 0.5e of zero.

### 1.2 Tare

A semi-automatic taring device of up to 5.998 kg capacity may be fitted. In addition, the instrument incorporates a keyboard-operated pre-set tare device of the same capacity, by which a tare value may be entered against an item in the price-look-up table (i.e. the instrument has a price and tare look-up facility).

### 1.3 Display Check

A display check is initiated whenever power is applied or when the ON/OFF button is pressed.

### 1.4 Levelling

The instrument is provided with adjustable feet.

### 1.5 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

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## 1.6 Sealing Provision

Instruments shall be sealed by placing a destructive adhesive label either over a casing retaining screw or across the join where the two casing-halves meet.

## 1.7 Markings

Instruments are marked with the following data, together in one location:

| | |
|---|---|
| Manufacturer's name or mark | |
| Serial number | |
| NSC approval number | NSC No 6/4D/269 |
| Accuracy class | (III) |
| Maximum capacity | Max ..... / ..... kg * |
| Minimum capacity | Min ..... kg * |
| Verification scale interval | e = ..... / ..... kg * |
| Maximum subtractive tare | T = - ..... kg |

* Repeated adjacent to each reading face.

## 2. Description of Variants

### 2.1 Variant 1

Other models of the SM-70 series in various configurations (e.g. without column-mounted indicator, without PLU facility) and known as models SM-70L, SM-70P, SM-70U, or SM-74U.

### 2.2 Variant 2

With the weighing unit (load cell and mounting) in an alternative housing.

### 2.3 Variant 3

A number of SM-70 series instruments may be connected in a network to share common PLU data, to transfer transaction data between instruments, and to retrieve management information.

Each individual instrument within the network has the facility for the transaction data to be entered into one of a number of operator memories, with a totalised ticket being produced at the end of a number of transactions. The ticket (or tickets) indicates each item in the transaction and the total price for the transaction.

The linking of these instruments in a network allows such transaction data to be transferred between instruments.

The network may include a number of Teraoka instruments which are Commission-approved for networking. The controller in any network may be an SM-70 instrument, a 'control-box', or a computer.

NOTE: The weighing and price-computing functions of each weighing instrument in the network are independent, and the removal, repair or replacement of a particular weighing instrument does not necessitate reverification of any other weighing instrument in the network.

### 2.4 Variant 4

As single-interval instruments in certain capacities up to 150 kg, with the baseworks and load cells as listed in Table 1.

## TEST PROCEDURE

Instruments should be tested in conjunction with any relevant tests specified in the Inspector's Handbook.

**Maximum Permissible Errors at Verification/Certification**

The maximum permissible errors for increasing and decreasing loads, expressed in terms of verification scale interval (e), with the instrument adjusted to zero within ±0.25e at no load, are:

±0.5e for loads from 0 to 500e;
±1.0e for loads over 500e up to 2000e; and
±1.5e for loads over 2000e.

For multi-interval instruments with verification scale intervals of $e_1$, $e_2$, ..., apply $e_1$ for zero adjustment and for maximum permissible errors apply $e_1$, $e_2$, ..., as applicable for the load.

TABLE 1 - Approved Single-interval Models and Capacities

| | | | |
|---|---|---|---|
| Maximum capacity | 30 kg | 60 kg | 150 kg |
| Verification scale interval | 0.01 kg | 0.02 kg | 0.05 kg |
| Max. tare capacity | 30 kg | 60 kg | 99.95 kg |
| Basework models | SA<br>S-DK<br>DS-410 | S-BK<br>S-CK<br>S-DK<br>DS-410 | S-BK<br>S-CK<br>DS-410 |
| Load cell model | RN 31 (*) | RW 60 | RW 150 |
| Load cell capacity | 30 kg | 60 kg | 150 kg |

(*) Also known as a model RW 30.

Nominal basework sizes: SA (280 mm x 380 mm), S-BK (420 mm x 520 mm), S-CK (600 mm x 700 mm), S-DK (320 mm x 420 mm), DS-410 (415 mm x 415 mm).

NOTE: The DS-410 style baseworks are as described in the documentation of NSC approval No 6/9C/202A.

FIGURE 6/4D/269 - 1

Teraoka Seiko Model SM-70 Weighing Instrument