



**Australian Government**  
**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

**Cancellation**  
**Certificate of Approval**  
**No 6/4D/305**

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

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

Teraoka Model SM-300 P Weighing Instrument

submitted by           W W Wedderburn Pty Ltd  
                                  90 Parramatta Road  
                                  SUMMER HILL   NSW   2130

has been cancelled in respect of new instruments as from 1 May 2012.

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, consisting of stylized cursive letters, positioned to the right of the signature text.



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## **Certificate of Approval**

### **No 6/4D/305**

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

Teraoka Model SM-300 P 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.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated July 2004.

#### **CONDITIONS OF APPROVAL**

This approval becomes subject to review on 1 March 2007, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC 6/4D/305 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.

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

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

#### DESCRIPTIVE ADVICE

**Pattern:** approved 15 February 2002

- A Teraoka model SM-300 P multi-interval self-indicating price-computing weighing instrument with a maximum capacity of 15 kg. May also be known as a model SM-90 CTP.

**Variants:** approved 15 February 2002

1. Of 6 kg maximum capacity.
2. Of 30 kg maximum capacity.
3. A model SM-300 B (or SM-90 CTB).

**Variants:** approved 29 March 2002

4. A model SM-300 BS (or SM-90 CTBS).
5. A model SM-300 EV (or SM-90 CTEV).
6. A model SM-300 EBS (or SM-90 CTEBS).
7. Models of the SM-300/SM-90 CT\* series connected in a network.

Technical Schedule No 6/4D/305 describes the pattern and variants 1 to 7.

**Variant:** approved 20 March 2003

8. A model SM-300 H (or SM-90 CTH) with a hanging load receptor.

Technical Schedule No 6/4D/305 Variation No 1 describes variant 8.

**Variant:** approved 19 January 2007

9. As single interval instruments of certain capacities.

Technical Schedule No 6/4D/305 Variation No 2 describes variant 9.

FILING ADVICE

Certificate of Approval No 6/4D/305 dated 9 April 2003 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/305 dated 22 January 2007  
Technical Schedule No 6/4D/305 dated 4 April 2002 (incl. Test  
Procedure)  
Technical Schedule No 6/4D/305 Variation No 1 dated 9 April 2003  
Technical Schedule No 6/4D/305 Variation No 2 dated 22 January 2007  
(incl. Table 1)  
Figures 1 to 6 dated 4 April 2002  
Figure 7 dated 9 April 2003

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.', written in a cursive style.

## TECHNICAL SCHEDULE No 6/4D/305

**Pattern:** Teraoka Model SM-300 P Weighing Instrument.

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

### 1. Description of Pattern

A Teraoka model SM-300 P **[(#) - SM-90 CTP]** multi-interval self-indicating price-computing weighing 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.

(#) Throughout this Technical Schedule alternative model names are given in bold-italics (as shown above).

The instrument has a double-sided column-mounted display. For each side, the display consists of a dot matrix liquid crystal display (LCD). Weight, unit price and price information are presented on the first line of the display and a second line provides a tare display and alpha-numeric information relating to product look up (PLU) items.

Instruments are fitted with an integral printer, for printing of labels or tickets.

Instruments have unit price to \$9999.99/kg, price to \$99999.99, a product look up (PLU) facility, and may be fitted with output sockets for the connection of peripheral and/or auxiliary devices.

Instruments may be provided with a 32 or 56 key, PLU keyboard.

#### 1.1 Zero

Zero is automatically corrected to within  $\pm 0.25e_1$  whenever power is applied and whenever the instrument comes to rest within  $0.5e$  of zero.

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

The instrument has a semi-automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument.

#### 1.2 Tare

A semi-automatic subtractive tare device and/or a keyboard-entered pre-set subtractive taring device, each of up to 5.998 kg maximum capacity, may be fitted.

A separate display for tare values is provided.

Pre-set tare values may be associated with product look up (PLU) items.

#### 1.3 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice advising that the instrument must be level when in use.

#### 1.4 Display Check

A display check is initiated whenever power is applied.

#### 1.5 Verification/Certification Provision

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

#### 1.6 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of a destructible label placed over the calibration switch access hole on the underside of the instrument (Figure 2) and one or more destructible labels placed to prevent removal of the body housing from the base frame.

#### 1.7 Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Teraoka
Name or mark of manufacturer's agent	Wedderburn
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NSC No 6/4D/305
Maximum capacity	Max .... / .... kg *
Minimum capacity	Min ..... kg *
Verification scale interval	e = .... / ..... kg *
Tare capacity	T = ..... kg
Serial number of the instrument	.....

\* These markings shall also be shown near the display of the result if they are not already located there.

### 2. Description of Variants

#### 2.1 Variant 1

The pattern or any variant as a multi-interval self-indicating price-computing weighing instrument with a verification scale interval ( $e_1$ ) of 0.001 kg up to 3 kg and with a verification scale interval ( $e_2$ ) of 0.002 kg from 3 kg up to the maximum capacity of 6 kg.

A semi-automatic subtractive tare device and/or a keyboard-entered pre-set subtractive taring device, each of up to 2.999 kg maximum capacity, may be fitted.

#### 2.2 Variant 2

The pattern or any variant as a multi-interval self-indicating price-computing weighing instrument with a verification scale interval ( $e_1$ ) of 0.005 kg up to 15 kg and with a verification scale interval ( $e_2$ ) of 0.01 kg from 15 kg up to the maximum capacity of 30 kg.

A semi-automatic subtractive tare device and/or a keyboard-entered pre-set subtractive taring device, each of up to 14.995 kg maximum capacity, may be fitted.

### 2.3 Variant 3

The model SM-300 B **[SM-90 CTB]** (Figure 3) which is similar to the pattern (model SM-300 P) but the displays are incorporated within the main instrument housing.

The instrument may be provided with a 32 key, PLU keyboard.

This instrument may be provided without a customers display (only with a display for the operator of the instrument) in which case it shall be NOT FOR TRADING DIRECT WITH THE PUBLIC and shall carry a notice to this effect.

### 2.4 Variant 4

The model SM-300 BS **[SM-90 CTBS]** (Figure 4) which is similar to the pattern (model SM-300 P) but which has the PLU keyboard (of up to 120 keys) mounted on a column below the display (which provides indications on both sides).

Alternatively this instrument may be provided without a customers' display (only with a display for the operator of the instrument) in which case it shall be either:

- NOT FOR TRADING DIRECT WITH THE PUBLIC in which case it carries a notice to this effect; or
- Used in a self-service arrangement.

Use of a totalisation across instruments ('floating system') arrangement described in variant 7 is not approved in this self-service arrangement.

In this self-service arrangement, stored tare values may be associated with product look up (PLU) keys. However the use of stored tare values associated with product look up (PLU) keys shall be at the discretion of the applicable trade measurement authority, who may require various operation instructions and notes regarding the appropriate container for each product.

Other tare facilities and operator keys shall be disabled, other than the zero and print keys (which shall be relabelled 'REZERO' and 'PRINT' to enable operation by untrained operators).

### 2.5 Variant 5

The model SM-300 EV **[SM-90 CTEV]** (Figure 5) which is similar to the pattern (model SM-300 P) but which has the full instrument keyboard (including up to 56 PLU keys) mounted on a column below the display (which provides indications on both sides).

### 2.6 Variant 6

The model SM-300 EBS **[SM-90 CTEBS]** (Figure 6) which is similar to variant 3 (model SM-300 B) but which has a PLU keyboard (of up to 120 keys) mounted on a column.

This instrument is provided only with a display for the operator of the instrument and shall be either:

- NOT FOR TRADING DIRECT WITH THE PUBLIC in which case it carries a notice to this effect; or
- Used in a self-service arrangement.

Use of a totalisation across instruments ('floating system') arrangement described in variant 7 is not approved in this self-service arrangement.

In this self-service arrangement, stored tare values may be associated with product look up (PLU) keys. However the use of stored tare values associated with product look up (PLU) keys shall be at the discretion of the applicable trade measurement authority, who may require various operation instructions and notes regarding the appropriate container for each product.

Other tare facilities and operator keys shall be disabled, other than the zero and print keys (which shall be relabelled 'REZERO' and 'PRINT' to enable operation by untrained operators).

## 2.7 Variant 7

The models of the SM-300 series [**SM-90 CT\* series**] may be connected in a network with compatible Teraoka instruments, to share common PLU data, for totalisation across instruments ('floating system'), and to accumulate and retrieve management information.

In addition, the network may be interfaced with a computer for the collection of management data, or the downloading of PLU data.

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.

## TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

### Maximum Permissible Errors at Verification/Certification

The maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads,  $m$ , expressed in verification scale intervals,  $e$ , are:

- ±0.5  $e$  for loads  $0 \leq m \leq 500$ ;
- ±1.0  $e$  for loads  $500 < m \leq 2\,000$ ; and
- ±1.5  $e$  for loads  $2\,000 < m \leq 10\,000$ .

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



TECHNICAL SCHEDULE No 6/4D/305

VARIATION No 1

**Pattern:** Teraoka Model SM-300 P Weighing Instrument

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

**1. Description of Variant 8**

A Teraoka model SM-300 H [*SM-90 CTH*] multi-interval self-indicating price-computing weighing instrument with a hanging load receptor (Figure 7).

Instruments are approved with the following capacities:

- with a verification scale interval ( $e_1$ ) of 0.001 kg up to 3 kg and with a verification scale interval ( $e_2$ ) of 0.002 kg from 3 kg up to the maximum capacity of 6 kg;
- 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; and
- with a verification scale interval ( $e_1$ ) of 0.005 kg up to 15 kg and with a verification scale interval ( $e_2$ ) of 0.01 kg from 15 kg up to the maximum capacity of 30 kg.

TECHNICAL SCHEDULE No 6/4D/305

VARIATION No 2

**Pattern:** Teraoka Model SM-300 P Weighing Instrument

**Submittor:** W W Wedderburn Pty Ltd  
90 Parramatta Road  
SUMMER HILL NSW 2130

**1. Description of Variant 9**

The pattern or variants as a single interval self-indicating price-computing weighing instrument as shown in Table 1.

A semi-automatic subtractive tare device and/or a keyboard-entered pre-set subtractive taring device, each of up to the maximum tare capacity shown in Table 1, may be fitted.

The instruments may use alternative load cells as shown in Table 1; this may be either a Teraoka type K load cell of the capacity shown in row 'Cell (a)'; or a Minebea model C2G1-...-S23 load cell of the capacity shown in row 'Cell (b)'.

TABLE 1

<i>Max</i>	6 kg	6 kg	15 kg	15 kg	30 kg	30 kg
<i>e</i>	1 g	2 g	2 g	5 g	5 g	10 g
<i>T</i>	2.999 kg	2.998 kg	7.498 kg	7.495 kg	9.995 kg	9.990 kg
Cell (a)	10 kg	10 kg	20 kg	20 kg	48 kg	48 kg
Cell (b)	10 kg	10 kg	30 kg	30 kg	N/A	N/A

*Max* = maximum capacity of the instrument

*e* = verification scale interval

*T* = maximum tare capacity



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**Notification of Change**  
**Certificate of Approval No 6/4D/305**  
**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  
Teraoka Model SM-300 P Weighing Instrument

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

In Certificate of Approval No 6/4D/305 dated 22 January 2007;

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 March 2012, and then every 5 years thereafter.”
2.    The FILING ADVICE should be amended by adding the following:  
      “Notification of Change No 1 dated 22 March 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 6/4D/305 - 1



Teraoka Model SM-300 P Weighing Instrument

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FIGURE 6/4D/305 - 2

Destructible Label



Sealing of Calibration Switch Access Hole

FIGURE 6/4D/305 - 3



Teraoka Model SM-300 B Weighing Instrument

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FIGURE 6/4D/305 - 4



Teraoka Model SM-300 BS Weighing Instrument



FIGURE 6/4D/305 - 5



Teraoka Model SM-300 EV Weighing Instrument



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4 April 2002

FIGURE 6/4D/305 - 6



Teraoka Model SM-300 EBS Weighing Instrument

FIGURE 6/4D/305 - 7



Teraoka Model SM-300 H [*SM-90 CTH*] Weighing Instrument