



**Australian Government**  

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**National Measurement  
Institute**

12 Lyonpark Road, North Ryde NSW 2113

**Cancellation  
Certificate of  
Approval No 6/9C/259**

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 Approval No 6/9C/259  
in respect of the

Teraoka Model CK300 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 April 2005.

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.', written in a cursive style.



# National Standards Commission

## Certificate of Approval

**No 6/9C/259**

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 Model CK300 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 becomes subject to review on 1 October 2003, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/9C/259 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 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.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

### DESCRIPTIVE ADVICE

**Pattern:** approved 10 September 1998

- A Teraoka model CK300 self-indicating weighing instrument of 300 kg maximum capacity.

**Variant:** approved 10 September 1998

1. Certain baseworks of this approval with a compatible Commission-approved indicator.

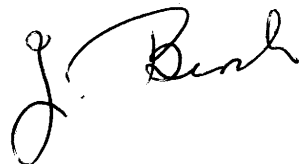
Technical Schedule No 6/9C/259 describes the pattern and variant 1.

### FILING ADVICE

The documentation for this approval comprises:

- Certificate of Approval No 6/9C/259 dated 30 November 1998
- Technical Schedule No 6/9C/259 dated 30 November 1998 (incl. Tables 1 & 2, and Test Procedure)
- Figures 1 and 2 dated 30 November 1998

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.



## TECHNICAL SCHEDULE No 6/9C/259

**Pattern:** Teraoka Model CK300 Weighing Instrument.

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

### 1. Description of Pattern

A Teraoka model CK300 self-indicating platform weighing instrument (Figure 1) of 300 kg maximum capacity with a verification scale interval of 0.1 kg.

#### 1.1 Basework

The model CK300 basework (Figure 1) has the load receptor directly supported by a single load cell.

The load receptor has maximum nominal dimensions of 600 x 700 mm.

#### 1.2 Load Cell

A Teraoka model RW300 load cell of 300 kg capacity is used, mounted as shown in Figure 1.

#### 1.3 Indicator

A Teraoka Seiko model DI-160 digital indicator (Figure 2) is used. This indicator is also described in the documentation of NSC approval No S356.

##### 1.3.1 Zero

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

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.

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

##### 1.3.2 Tare

A semi-automatic and/or a keyboard-entered preset subtractive taring device, each having a capacity of up to the maximum capacity of the instrument, may be fitted.

### 1.3.3 Display Check

A display check is initiated whenever power is applied.

### 1.4 Verification/Certification Provision

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

### 1.5 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed by the method described in the approval documentation for the indicator.

### 1.6 Markings and Notices

(a) Instruments carry the following markings, in the form shown at right:

Manufacturer's mark, or name written in full	Teraoka
Indication of accuracy class	Ⓜ
Maximum capacity	Max ..... kg *
Minimum capacity	Min ..... kg *
Verification scale interval	e = ..... kg *
Serial number of the instrument	.....
Pattern approval mark for the instrument	NSC No 6/9C/259

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

(b) The indicator is marked and carries notices in accordance with its NSC approval documentation.

(c) If the indicator used is not the model DI-160 indicator as described in clause **1.3 Indicator**, then the basework is marked with the following, in the form shown at right:

Manufacturer's mark, or name written in full	Teraoka
Indication of accuracy class	Ⓜ
Maximum capacity	Max ..... kg
Model number	.....
Serial number of the instrument	.....
Pattern approval mark for the instrument	NSC No 6/9C/259

## 2. Description of Variant 1

Certain baseworks of this approval (Tables 1 and 2) used with a compatible Commission-approved (by Supplementary Certificate) indicator provided the conditions set out below are met.

Instruments may be known according to their basework or their indicator model number, e.g. an instrument comprising a model BK60 basework and a model DI-160 indicator, may be known as either a model BK60 or as a model DI-160.

The approved baseworks and their limiting characteristics are given in Tables 1 and 2.

The conditions to be met are:

- The excitation voltage used is within the range approved for the baseworks.
- The maximum load applied to the basework (live load plus any dead load) does not exceed the load cell maximum capacity.
- The verification scale interval is not less than the minimum value specified.
- The number of verification scale intervals is less than or equal to the  $n_{\max}$  value specified.
- The signal voltage per verification scale interval is no less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

$$\text{Indicator Sensitivity} \leq 1000 \times E_x \times LC\_Sens \times e / E_{\max}$$

where  $E_x$  = Excitation from indicator (V)

$LC\_Sens$  = Load cell sensitivity (mV/V)

$E_{\max}$  = Load cell maximum capacity (nominal) (kg)

$e$  = verification scale interval of the instrument (kg).

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator ( $\mu\text{V}$ )

### TEST PROCEDURE

Instruments should be tested in accordance 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 on initial verification/certification for loads,  $m$ , expressed in verification scale intervals,  $e$ , are:

$\pm 0.5e$  for loads  $0 \leq m \leq 500$ ;

$\pm 1.0e$  for loads  $500 < m \leq 2\,000$ ; and

$\pm 1.5e$  for loads  $2\,000 < m \leq 10\,000$ .

TABLE 1

Baseworks	30 kg DS-410BW30	60 kg DS-410BW60 (BK60) [CK60]
Basework Maximum Capacity (kg)	30	60
Maximum Platform Sizes (mm)	414 x 414	414 x 414 (420 x 520) [600 x 700]
Load Cell Used	RW30	RW60
Load Cell Maximum Capacity $E_{max}$ (kg)	45	90
$n_{max}$	3000	3000
Minimum Verification Scale Interval Value for single interval use (kg)	0.01	0.02
Output Rating at $E_{max}$ (mV/V)	1.5	1.5
Input Impedance (ohms)	430	430
Excitation Voltage (V)	5 - 15	5 - 15
Cable Lengths ( $\pm 0.1m$ ) (m)	0.5 to 3.0 (#)	0.5 to 3.0 (#)
Number of Leads (plus shield)	4	4

(#) The cable length supplied with the basework shall not be shortened.

Approved 30 and 60 kg Baseworks and Their Limiting Characteristics

TABLE 2

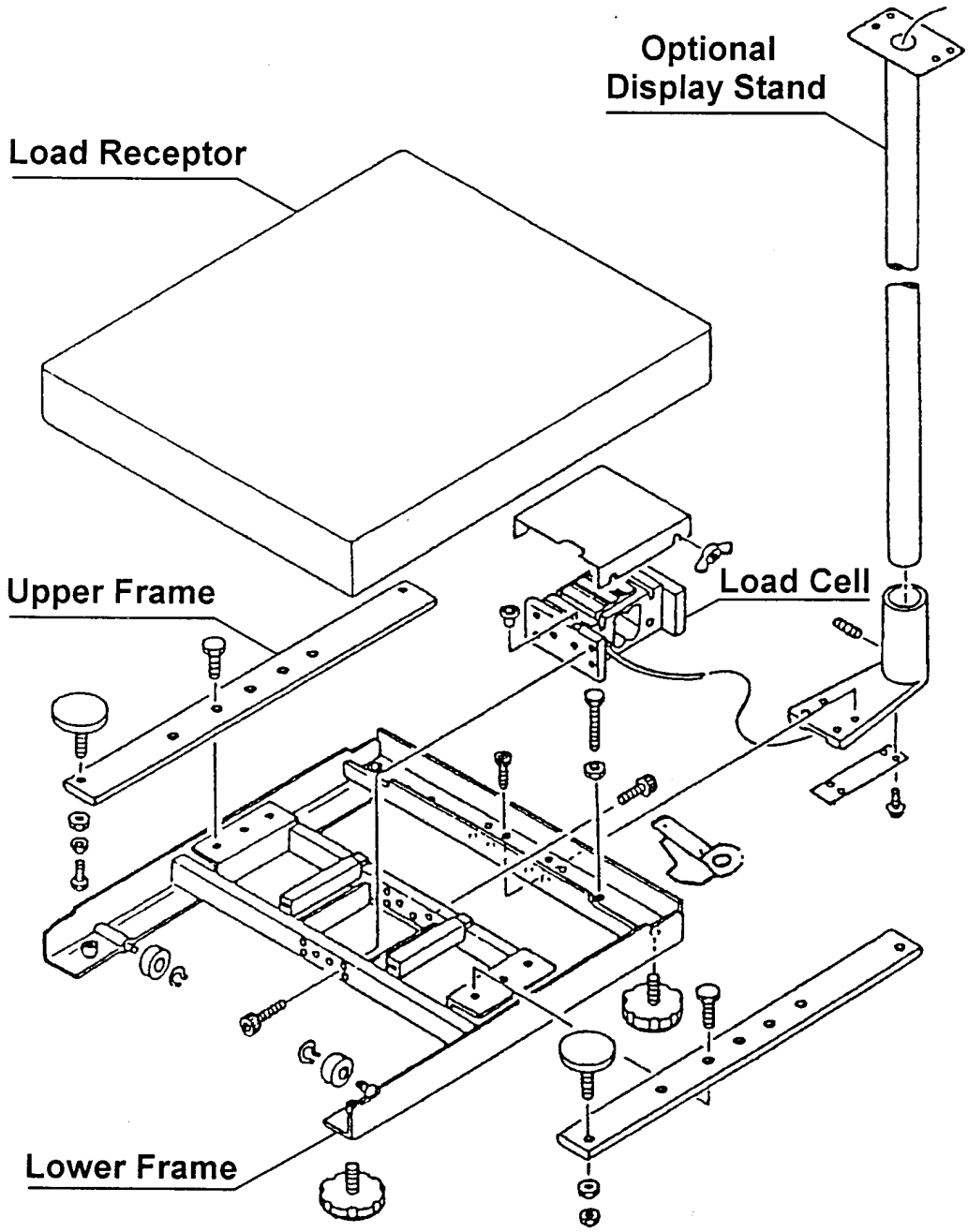
Baseworks	150 kg	300 kg
	DS-410BW150 (BK150) [CK150]	BK300 (CK300)
Basework Maximum Capacity (kg)	150	300
Maximum Platform Sizes (mm)	414 x 414 (420 x 520) [600 x 700]	420 x 520 (600 x 700)
Load Cell Used	RW150	RW300
Load Cell Maximum Capacity E <sub>max</sub> (kg)	225	450
n <sub>max</sub>	3000	3000
Minimum Verification Scale Interval Value for single interval use (kg)	0.05	0.1
Output Rating at E <sub>max</sub> (mV/V)	1.5	1.5
Input Impedance (ohms)	430	430
Excitation Voltage (V)	5 - 15	5 - 15
Cable Lengths ( $\pm 0.1$ m) (m)	0.5 to 3.0 (#)	0.5 to 3.0 (#)
Number of Leads (plus shield)	4	4

(#) The cable length supplied with the basework shall not be shortened.

Approved 150 and 300 kg Baseworks and Their Limiting Characteristics



FIGURE 6/9C/259 - 1



Teraoka Model CK300 Basework

FIGURE 6/9C/259 - 2



Teraoka Seiko Model DI-160 Digital Indicator