



NATIONAL STANDARDS COMMISSION

S220
20/10/87

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S220

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

Teraoka Seiko Model DS-410 Digital Indicator

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

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/12/90.

This approval expires in respect of new instruments on 1/12/91.

Instruments purporting to comply with this approval shall be marked NSC No S220.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates Nos S1/0 and/or S2/0, as appropriate.

Signed

Executive Director

Descriptive Advice

Pattern: approved 28/11/86

- Teraoka Seiko model DS-410 digital mass indicator.

Technical Schedule No S220 describes the pattern.

Filing Advice

The documentation for this approval comprises:

Supplementary Certificate of Approval No S220 dated 20/10/87
Technical Schedule No S220 dated 20/10/87
Test Procedure No S220 dated 20/10/87
Figure 1 dated 20/10/87



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TECHNICAL SCHEDULE No S220

Pattern: Teraoka Seiko Model DS-410 Digital Indicator

Submittor: J W Wedderburn and Sons Pty Ltd
90 Parramatta Road
Summer Hill NSW 2130

1. Description of Pattern

A digital mass indicator (Figure 1) approved for use with 3000 verification scale intervals. The indicator may be fitted with output sockets for the connection of auxiliary and/or peripheral devices.

1.1 Zero

Zero is automatically set to within $\pm 0.25e$ whenever the instrument comes to rest within $\pm 0.5e$. If the instrument comes to rest outside that range but within the zero setting range, zero may be set by pressing the zero button.

1.2 Display Check

A display check is initiated whenever power is applied from the power supply and the ON/ZERO button is pressed.

1.3 Tare

A semi-automatic taring device of up to maximum capacity may be fitted.

1.4 Markings

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

Manufacturer's name or mark	
Serial number	
Accuracy class	(III)
Maximum capacity	Max kg *
Minimum capacity	Min kg *
Verification scale interval	e = d = ... kg *
Maximum subtractive tare	T = - kg
NSC approval numbers - Indicator	NSC No S220
Other components (where applicable)...	#
Load cell serial number(s)	... #

- * These markings are repeated in the vicinity of each reading face.
- # These may be located separately from the other markings.

Where the maximum capacity is 30 kg or less, the instrument must also be marked NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC or similar.

1.5 Verification Provision

Provision is made for a verification mark to be applied.



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TEST PROCEDURE S220

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

- ± 0.5e for loads between 0 and 500e;
- ± 1.0e for loads between 501e and 2000e; and
- ± 1.5e for loads above 2000e.

1. Zero Test

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to, say, 10e on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor will be 10e and 11e respectively.

2. Zero Range

The maximum range of operation of the zero setting device should not exceed 4% of the maximum capacity. The device shall be capable of both negative and positive adjustments of at least one-quarter of the zero adjustment range. With zero balance indicated apply a load of, say, 3.5% of maximum capacity and press the zero button; the instrument should not rezero.

3. Load Test

Test loads are to be applied in not less than 5 approximately equal steps increasing to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

4. Range of Indication

The maximum mass indicated should not exceed the marked maximum capacity by more than 10e; above this indicated mass the indication should be blank or show non-numerical characters.

Below zero the display may show a mass preceded by a minus sign.

5. Taring

The tare function should be able to reset the mass indicator to zero within 0.25e at any load within its capacity. This may be checked as described for Zero Test. A tare should not be able to be acquired above the marked tare capacity.

FIGURE S220 - 1



Teraoka Seiko DS-410 Indicator