6/9C/281
19 November 2010

Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/9C/281
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

Excell Model LRW Weighing Instrument

submitted by Crestspring Pty Ltd
Trading as South East Qld Scales
now of 7/10 Enterprise Street
Ashmore QLD 4214.

A. In Certificate of Approval 6/9C/281 dated 28 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 **2014**, and then every 5 years thereafter."

2. The FILING ADVICE should be amended by adding the following:

   "Notification of Change No 1 dated 19 November 2010"

B. In Certificate of Approval No 6/9C/281 and its Technical Schedule both dated 28 May 2004, all references to the address of the submittor should be amended to read:

   "7/10 Enterprise Street
   Ashmore QLD 4214."

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

6/9C/281
28 May 2004

Australian Government

National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

Certificate of Approval

No 6/9C/281

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

Excell Model LRW Weighing Instrument

submitted by Crestspring Pty Ltd
Trading as South East Qld Scales
4/10 Keller Cres
Carrara QLD 4211.

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.

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CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 May 2009, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/9C/281 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 NSC P 106.

The Commission 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.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to the instrument shall be within the limits specified herein and in any approval documentation for the components where they are approved separately.

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

DESCRIPTIVE ADVICE

Pattern: approved 27 April 2004

- An Excell model LRW self-indicating weighing instrument of 150 kg maximum capacity.

Variants: approved 27 April 2004

1. Certain other models of the LRW, MRW and LRWS series as listed in Table 1.
2. Certain baseworks of this approval used with a compatible Commission-approved indicator

Technical Schedule No 6/9C/281 describes the pattern and variants 1 & 2.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/9C/281 dated 28 May 2004
Technical Schedule No 6/9C/281 dated 28 May 2004 (incl. Table 1 and Test Procedure)
Figures 1 to 5 dated 28 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 6/9C/281

Pattern: Excell Model LRW Weighing Instrument

Submittor: Crestspring Pty Ltd
Trading as South East Qld Scales
4/10 Keller Cres
Carrara QLD 4211

1. Description of Pattern

An Excell model LRW self-indicating weighing instrument (Table 1 and Figure 1) with a maximum capacity of 150 kg and a verification scale interval of 0.05 kg.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices.

Instruments are powered by mains supply or by an integral rechargeable 6 V battery.

1.1 Basework

The Excell model LRW basework (Figure 2) has the load receptor directly supported by a single load cell. The load receptor has maximum nominal dimensions of 460 x 600 mm.

1.2 Load Cell

A Tedea Huntleigh model 1263 class C3 load cell of 300 kg maximum capacity is used.

1.3 Indicator

An Excell model RW digital indicator is used (Figure 3). The indicator may be attached directly to the base or mounted on a column; it may also be located remotely.

The indicator has a facility for set point display ("HIGH/OK/LOW") and associated relay output; this facility is not approved for trade use.

If the instrument is provided with a 'UNITS' button then the button shall be inoperative, i.e. the units used must be kg.

1.3.1 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.

The initial zero-setting device of the pattern 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.

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1.3.2 Tare

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

A Net/Gross button ("NET/B/G") is provided which allows switching of indication between net and gross values.

1.3.3 Display Check

A display check is initiated whenever power is applied.

1.4 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.

1.5 Sealing Provision

Provision is made for access to the calibration adjustments to be disabled by use of a removable link (jumper) within the indicator casing.

It is possible to check the position of the link by the following method:

- Turn the instrument on;
- Press the zero button during the display check sequence, and keep it pressed until the sequence is complete;
- Release the zero button ('F 0' should appear); and
- Press the print button.

If the link is in the 'locked' position (preventing calibration access) then the instrument will display the software version number ("2001"); if the instrument is not correctly sealed then the word "ZEro" will be displayed.

Switching the instrument off and then on will return it to normal operating mode.

Access to the removable link is able to be sealed by:

(a) Application of a destructible adhesive label over the calibration access cover (as shown in Figure 4); and

(b) Either:

- Use of destructible adhesive labels over the join between the front and back sections of the indicator housing (Figure 5), in two opposing locations; or
- Use of a wire and lead seal through a rod which extends through the back section of the indicator housing (Figure 5).

1.6 Verification/Certification Provision

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

1.7 Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Excell Precision Co, Taiwan
Name or mark of manufacturer's agent	.....
Indication of accuracy class	(III)
Pattern approval mark for the instrument	NSC No 6/9C/281
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.

In addition, instruments not greater than 100 kg capacity shall carry a notice stating NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

2. Description of Variants

2.1 Variant 1

Certain other models of the LRW, MRW and LRWS series as listed in Table 1.

The MRW series are similar to the pattern (LRW) but have smaller baseworks.

The LRWS series are similar to the LRW but the baseworks are of stainless steel construction.

2.2 Variant 2

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

In addition to the markings specified in clause **1.7 Markings**, instruments are marked with the NSC approval number for the indicator used, together in the same location.

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

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 not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

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

where Ex = Excitation from indicator (V)

LC_Sens = Load cell sensitivity (mV/V)

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

e = verification scale interval of the instrument (kg)

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μV)

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 $2\,000 < m \leq 10\,000$.

TABLE 1

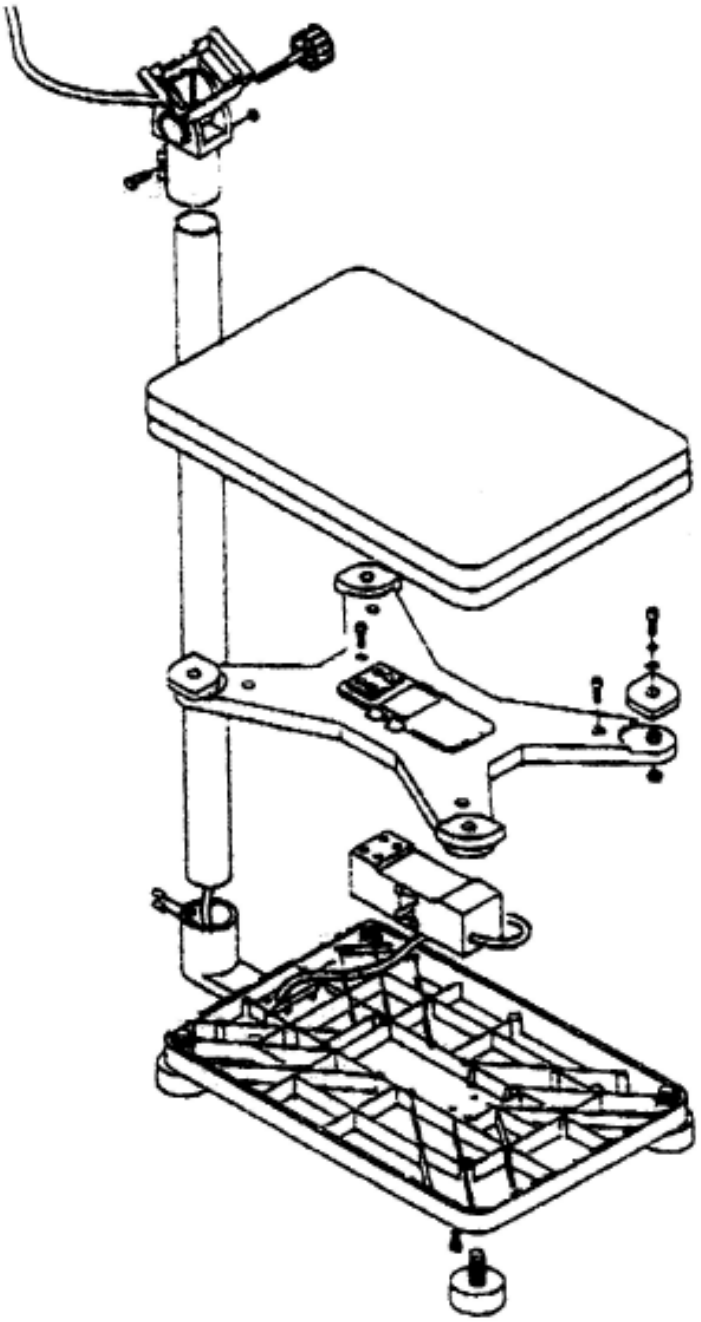
Instrument model		MRW	MRW LRW LRWS	MRW LRW LRWS
Maximum capacity	kg	60	150	300
Maximum platform size	mm x mm	370 x 520	370 x 520 460 x 600 460 x 600	370 x 520 460 x 600 460 x 600
Typical verification scale interval	kg	0.02	0.05	0.1
Maximum number of verification scale intervals	n_{max}	3000	3000	3000
Load cell model Tedea Huntleigh		1263	1263	1263
Load cell classification		C3	C3	C3
Number of load cells		1	1	1
Load cell maximum capacities (*Emax*)	kg	100	300	500
Minimum values of verification scale interval for basework (v_{min} *of load cell*)	kg	0.0067	0.02	0.033
Load cell sensitivity at *Emax*	mV/V	2	2	2
Input impedance	ohm	415	415	415
Excitation voltage (maximum)	V	15	15	15
Cable length (#) (±0.1m)	m	2	2	2
Number of leads (plus shield)		4	4	4

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

FIGURE 6/9C/281 – 1

Excell Model LRW and MRW Weighing Instruments

FIGURE 6/9C/281 – 2



Typical Excell Basework

FIGURE 6/9C/281 – 3

Excell Model RW Indicator

FIGURE 6/9C/281 – 4

Showing Sealing of The Calibration Access Cover

FIGURE 6/9C/281 – 5

Showing Casing Sealing Methods – Labels or Wire and Lead Seal May be Used