



NATIONAL STANDARDS COMMISSION

6/4D/229
21/12/87

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/229

CANCELLED

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

Berkel Model 681 Weighing Instrument

submitted by Berkel Australia Pty Ltd
19 Evans Street
Burwood Vic 3125.

0/1

CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/6/89.
This approval expires in respect of new instruments on 1/6/90.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/229.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.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 31/5/84

- Berkel model 681 self-indicating price-computing weighing instrument of 15 kg capacity with a verification scale interval of 0.005 kg.

Variant: approved 31/5/84

1. With tare being displayed as a minus quantity.

Technical Schedule No 6/4D/229 describes the pattern and variant 1.

Variants: approved 26/2/87

2. Model 680 WI of 3 kg capacity with a verification scale interval of 0.001 kg.
3. Model 680 WI of 30 kg capacity with a verification scale interval of 0.01 kg.

Technical Schedule No 6/4D/229 Variation No 1 describes variants 2 and 3.

Variant: approved 15/10/87

4. Model 680 WI of 6 kg capacity with a verification scale interval of 0.02 kg.

Technical Schedule No 6/4D/229 Variation No 2 describes variant 4.

Filing Advice

Certificate of Approval No 6/4D/229 dated 24/8/87 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No 6/4D/229 dated 21/12/87
Technical Schedule No 6/4D/229 dated 12/2/85
Technical Schedule No 6/4D/229 Variation No 1 dated 24/8/87
Technical Schedule No 6/4D/229 Variation No 2 dated 21/12/87
Test Procedure No 6/4D/229 dated 12/2/85
Figure 1 dated 12/2/85
Figure 2 dated 24/8/87



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/229

Pattern: Berkel Model 681 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood, Victoria, 3125

1. Description of Pattern

The pattern (Figure 1) is a self-indicating price-computing weighing instrument of 15 kg capacity with 0.005 kg scale intervals, price-computing to \$999.99/kg and price to \$9999.99. Unit price is entered via the keyboard and cancelled by pressing a button marked C. Pressing the button marked F retains unit price.

Output sockets may be provided for the connection of auxiliary and/or peripheral devices.

1.1 Zero

An automatic zero-setting device resets zero within 0.25e whenever the instrument comes to rest within 0.5e of zero.

Additionally, this device will reset zero when the instrument is switched on, provided the instrument is within $\pm 20e$ of the factory-set reference point.

The instrument is not provided with a zero light as it is fitted with an automatic zero-correction device with dual-circuit self-checking facility.

1.2 Display Check

When power is applied to the instrument, all the indicators display from 0 to 9, then blank, before the instrument zeroes.

1.3 Levelling

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

1.4 Tare

A semi-automatic taring device of up to 9.5 kg capacity may be fitted in which case a button marked T and a tare light are also fitted.

1.5 Marking

The instrument is marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number of instrument	
NSC approval number	NSC No 6/4D/229
Accuracy class	III
Maximum capacity in the form:	Max*
Minimum capacity in the form:	Min*
Verification scale interval in the form:	e = d =*
Maximum subtractive tare	T = -

*These markings are repeated adjacent to each reading face.

1.6 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variant 1

With tare displayed as a minus quantity in which case the instrument is not approved for retail counter use and must be so marked.

TEST PROCEDURE No 6/40/229

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 501 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 0.25 and 0.75e additional mass on the load receptor will then 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 (±2% approximately).

3. Load Test

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

4. Range of Indication

- (a) The maximum mass indicated should not exceed the marked maximum capacity (Max) by more than 10e; above this indicated mass the indication should be blank or show non-numerical characters.
- (b) The minimum mass indicated should be zero; below this the indication should be blank, show non-numerical characters or show a negative mass.

5. Taring

The semi-automatic 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.



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TECHNICAL SCHEDULE No 6/4D/229

VARIATION No 1

Pattern: Berkel Model 681 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood Vic 3125

1. Description of Variants

1.1 Variant 2

Displaying mass only and of 3 kg capacity with a verification scale interval of 0.001 kg, and known as a model 680 WI (Figure 2).

A semi-automatic taring device of up to 2.5 kg capacity may be fitted, in which case a button marked T and a tare light are also fitted. The tare value entered may be retained by pressing the FIX key.

1.2 Variant 3

Similar to variant 2 but of 30 kg capacity with a verification scale interval of 0.01 kg.

The taring device, if fitted, is of up to 25 kg capacity.



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TECHNICAL SCHEDULE No 6/4D/229

VARIATION No 2

Pattern: Berkel Model 681 Weighing Instrument

Submittor: Berkel Australia Pty Ltd
19 Evans Street
Burwood Vic 3125

1. Description of Variant 4

Displaying mass only and of 6 kg capacity with a verification scale interval of 0.02 kg, and known as a model 680 WI.

The taring device, if fitted, is of up to 5.5 kg capacity.

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Figure 6/40/229 - 1



Berkel Model 681 Weighing Instrument

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FIGURE 6/40/229 - 2



Model 680 VI