



# NATIONAL STANDARDS COMMISSION

6/4D/246  
24/2/88

## NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### CERTIFICATE OF APPROVAL No 6/4D/246

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 688 LS Weighing Instrument

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

#### CONDITIONS OF APPROVAL

This approval is subject to review on or after 1/7/90.  
This approval expires in respect of new instruments on 1/7/91.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/246.

This approval may be withdrawn if instruments are constructed other than in accordance with the drawings and specifications lodged with the Commission.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 8/12/87

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

Variants: approved 8/12/87

1. With the ability to display a negative indication.
2. With a ticket printer and known as a model 688 R.
3. A number of 688 R instruments connected in a network.
4. A number of 688 LS instruments connected in a network.
5. With the Avery model 8707 load cell used in the pattern replaced by the Avery model T103 load cell.

Technical Schedule No 6/4D/246 describes the pattern and variants 1 to 5.

Filing Advice

The documentation for this approval comprises:

Certificate of Approval No 6/4D/246 dated 24/2/88  
Technical Schedule No 6/4D/246 dated 24/2/88  
Test Procedure No 6/4D/246 dated 24/2/88  
Figure 1 dated 24/2/88



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 6/4D/246

Pattern: Berkel Model 688 LS Weighing Instrument

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

### 1. Description of Pattern

A self-indicating price-computing weighing instrument of 15 kg capacity with a verification scale interval of 0.005 kg, unit price to \$999.99/kg, price to \$9999.99, and with price-look-up (PLU) facility.

The instrument may be fitted with an output socket for the connection of a peripheral or an auxiliary device, and may also be fitted with an integral label printer (Figure 1).

#### 1.1 Zero

Zero is automatically corrected to within  $\pm 0.25e$  whenever the instrument comes to rest within  $0.5e$  of zero. If the instrument comes to rest outside that range but within the zero reset range, zero may be reset by pressing the zero button. The zero light illuminates whenever zero is within  $0.25e$ .

#### 1.2 Display Check

A display check is initiated whenever power is applied to the instrument or by pressing the button marked TEST.

#### 1.3 Tare

A semi-automatic subtractive taring device of up to 7.5 kg 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 **	
NSC approval number	NSC No 6/4D/246
Accuracy class	(III)
Maximum capacity	Max ..... kg *
Minimum capacity	Min ..... kg *
Verification scale interval	e = d = .... kg *
Maximum subtractive tare	T = - ..... kg

\*\* May be located separately from the other markings.

\* Repeated adjacent to each reading face if not already in that vicinity.

#### 1.5 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.

1.6 Verification Provision

Provision is made for a verification mark to be applied.

2. Description of Variants

2.1 Variant 1

With the ability to display a negative indication.

2.2 Variant 2

Fitted with a side-mounted ticket printer and known as a model 688 R. The instrument has facilities for transaction data to be entered into operator memories, with a totalised ticket being produced at the end of a number of transactions. This model has a total price range up to \$999.99.

The instrument may also have additional cash register functions, such as the entry of amount tendered, and calculation of change.

2.3 Variant 3

A number of 688 R instruments may be connected in a network to utilise common price-look-up (PLU) data, to allow communication of other management data, and to allow data on individual transactions to be communicated between instruments so that the data is available to be printed when a total is required. This network may be connected to a computer for the downloading of PLU data and for the communication of other management data.

2.4 Variant 4

A number of 688 LS instruments may be connected in a network to utilise common price-look-up (PLU) data and to allow communication of other management data. This network may be connected to a computer for the downloading of PLU data and for the communication of other management data.

Note To Inspectors: (for all networks)

The weighing and price-computing functions of each weighing instrument in the network are independant, and the removal, repair or replacement of a particular weighing instrument does not necessitate the reverification of any other instrument in the network.

2.5 Variant 5

With the Avery model 8707 load cell used in the pattern replaced by the Avery model T103 load cell.



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## TEST PROCEDURE No 6/4D/246

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:

- $\pm 0.5e$  for loads between 0 and  $500e$ ;
- $\pm 1.0e$  for loads between  $501e$  and  $2000e$ ; and
- $\pm 1.5e$  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, turn the power off and then back on, and then press the zero button; the instrument should not rezero.

### 3. Load Test

Test loads are to be applied to the instrument 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.

### 5. Taring

The tare function should be able to reset the mass indicator to zero within  $\pm 0.25e$  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 6/40/246 - 1



Berkel Model 688 LS