



Australian Government
Department of Industry,
Innovation and Science

National Measurement Institute

Certificate of Approval NMI 6/4D/337

Issued by the Chief Metrologist 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 instruments herein described.

Avery Berkel Model IM 100 Weighing Instrument

submitted by Avery Berkel (a Division of ITW Limited)
Foundry Lane
Smethwick
West Midlands B66 2LP
UK

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.

This approval has been granted with reference to document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated July 2004.

This approval becomes subject to review on **1/05/21**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 7 approved – interim certificate issued	8/04/08
1	Pattern & variants 1 to 7 approved – certificate issued	27/10/08
2	Variant 8 approved – certificate issued	11/09/09
3	Pattern & variants 1 to 8 reviewed & updated – certificate issued	23/06/16

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4D/337' and only by persons authorised by the submitter.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) 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 document NMI P 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates No S1/0/A or No S1/0B.

Special

Certain aspects of this instrument (in particular transaction record printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

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



Dr A Rawlinson

TECHNICAL SCHEDULE No 6/4D/337

1. Description of Pattern **approved on 8/04/08**

An Avery Berkel model IM 100 class $\text{\textcircled{III}}$ non-automatic single interval self-indicating price-computing weighing instrument (Figures 1a & 1b) with a verification scale interval of 0.001 kg and a maximum capacity of 6 kg.

Instruments are fitted with alphanumeric graphics panel displays, one for the vendor and another for the customer, and an integral printer (#). Instruments can print tickets or (in pre-pack mode) labels to be attached to pre-packaged articles.

Instruments have unit price to \$9999.99/kg, price to \$9999.99, a product look up (PLU) facility.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices; this may include wireless networking capabilities.

The instrument operates from mains AC power (240 V AC, 50 Hz).

(#) Refer to the Special Condition of Approval.

1.1 Zero

A zero-tracking device may be fitted.

The initial zero-setting device 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.

The instrument has an automatic zero setting device (which operates only when the instrument has been stable below zero for at least 5 seconds) with a nominal range of not more than 4% of the maximum capacity of the instrument.

1.2 Tare

A semi-automatic and/or non-automatic keyboard-entered pre-set subtractive tare device, each up to the maximum capacity of the instrument, may be fitted.

Pre-set tare values may be associated with product look up (PLU) items.

A display of tare values is provided.

1.3 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.

1.4 Display Check

A display check is initiated whenever power is applied or the TEST button is pressed.

1.5 Networking

A number of instruments may be connected in a network to share common PLU data, and to accumulate and retrieve management information.

In addition, the network may be interfaced with a computer for the collection of management data, or the downloading of PLU data.

Note: The weighing and price computing functions of each weighing instrument in the network are independent, and the removal, repair or replacement of a particular weighing instrument does not necessitate re-verification of any other weighing instrument in the network.

1.6 Verification Provision

Provision is made for the application of a verification mark.

1.7 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of a destructible label placed over the hole which provides access to the service mode (and hence calibration adjustments). In addition, a destructible label is used to prevent access within the instrument housing. See Figure 2.

1.8 Descriptive Markings and Notices

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full	Avery Berkel
Name or mark of manufacturer's agent
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/4D/337
Maximum capacity	<i>Max</i> g or kg #1
Minimum capacity	<i>Min</i> g or kg #1
Verification scale interval	<i>e</i> = g or kg #1
Maximum subtractive tare	<i>T</i> = - g or kg #2
Serial number of the instrument

#1 These markings are also shown near the display of the result if they are not already located there.

#2 This marking is required if *T* is not equal to *Max*.

2. Description of Variant 1 approved on 8/04/08

As single interval instruments of certain other capacities as listed below:

- (i) of 12 kg maximum capacity with a verification scale interval of 0.002 kg; and
- (ii) of 15 kg maximum capacity with a verification scale interval of 0.005 kg.

3. Description of Variant 2 approved on 8/04/08

As multi-interval instruments of certain capacities as listed below:

- (i) With a verification scale interval (e_1) of 0.001 kg up to 3 kg and with a verification scale interval (e_2) of 0.002 kg from 3 kg up to 6 kg, and with a maximum pre-set tare capacity of 3 kg; and

- (ii) With a verification scale interval (e_1) of 0.002 kg up to 6 kg and with a verification scale interval (e_2) of 0.005 kg from 6 kg up to 15 kg, and with a maximum pre-set tare capacity of 6 kg.

Instruments are marked with the 'Maximum capacity' and with the 'Verification scale interval' for both interval ranges, in addition to the other data specified in clause **1.8 Descriptive Markings**. Figure 1(c) shows a typical multi-interval display.

4. Description of Variant 3 **approved on 8/04/08**

The model IM 202 (Figure 3) which is similar to the IM 100 but has column-mounted displays.

5. Description of Variant 4 **approved on 8/04/08**

The model IM 300 (Figure 3) which is similar to the IM 100 but which has one or two column-mounted touch screen product look up (PLU) keyboards (e.g. for use as a self-service instrument – see Variant 7).

6. Description of Variant 5 **approved on 8/04/08**

The model IM 400 (Figure 3) which is similar to the IM 100 but which has the operator's keyboard and display column-mounted, as well as the customer display.

7. Description of Variant 6 **approved on 8/04/08**

The model IM 500 which is similar to the IM 100 but utilises a suspended scale construction (Figure 4) and has a maximum capacity of 15 kg and a verification scale interval of 0.005 kg.

Sealing arrangements are as shown in Figure 4.

2. Description of Variant 7 **approved on 8/04/08**

The pattern or variants without a customer display in which case instruments are either:

- (a) NOT FOR TRADING DIRECT WITH THE PUBLIC in which case instruments carry a notice to this effect; or
- (b) Used in a self-service arrangement with a touch screen display/keyboard for product look up (PLU) selection (e.g. Variant 4).

Note: It is not required that access to the zero setting facility be available to customers in a self-service arrangement. However access to the zero setting facility shall be available to staff of the particular store, and it is expected that measures will be in place to ensure that the zero condition of the instrument is checked regularly.

9. Description of Variant 8

approved on 11/09/09

The pattern or variants of 30 kg maximum capacity, these may be either:

- Single interval instruments of 30 kg maximum capacity, with a verification scale interval of 0.005 kg;
A semi-automatic and/or a non-automatic keyboard-entered pre-set subtractive tare device, each up to the maximum capacity of the instrument, may be fitted.
- Single interval instruments of 30 kg maximum capacity, with a verification scale interval of 0.010 kg; or
A semi-automatic and/or a non-automatic keyboard-entered pre-set subtractive tare device, each up to the maximum capacity of the instrument, may be fitted.
- Multi-interval instruments with a verification scale interval (e_1) of 0.005 kg up to 15 kg and with a verification scale interval (e_2) of 0.010 kg from 15 kg up to the maximum capacity of 30 kg, and with a maximum pre-set tare capacity of 15 kg.
Instruments are marked with the 'Maximum capacity' and with the 'Verification scale interval' for both interval ranges, in addition to the other data specified in clause **1.8 Descriptive Markings**.

TEST PROCEDURE

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

Maximum Permissible Errors

The maximum permissible errors are specified in the *National Trade Measurement Regulations 2009*.

Tests

For multi-interval and multiple range instruments with verification scale intervals of $e_1, e_2 \dots$, apply e_1 for zero adjustment, and maximum permissible errors apply $e_1, e_2 \dots$, as applicable for the load.

FIGURE 6/4D/337 – 1



(a) Avery Berkel Model IM 100 Weighing Instrument (Pattern & variants 1 & 2)

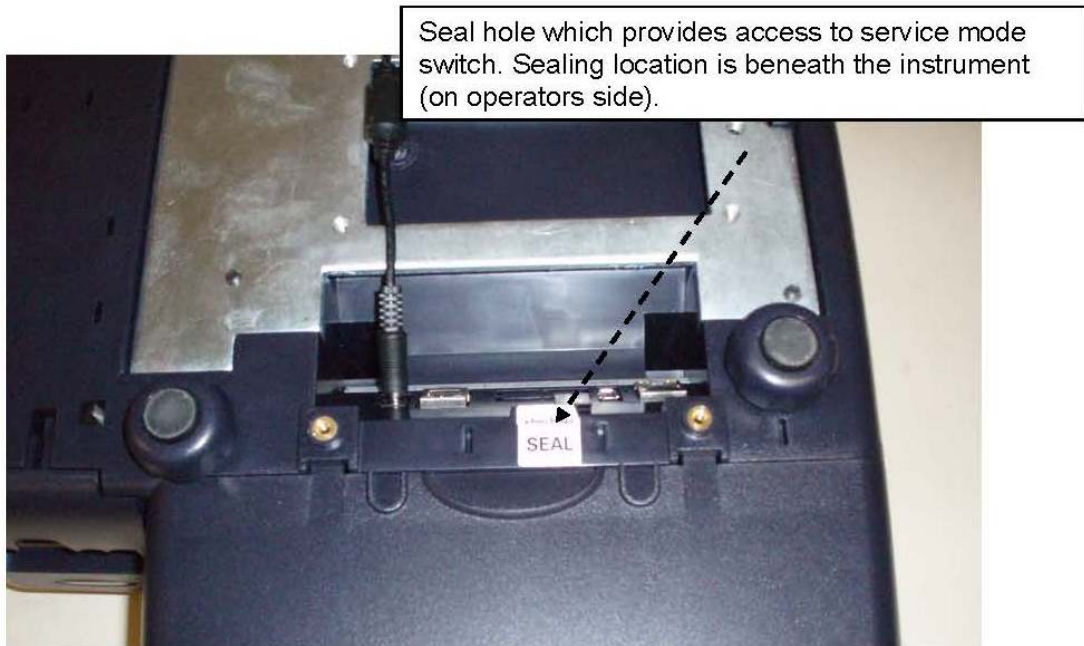
IM100	Max 6 kg	Min 20 g	e=1g
Net	0.550 kg	\$ 9.80	/kg
Tare	0.028 kg	\$ 5.39	TO PAY
Sirloin Steak			

(b) Typical Display Layout for Single-interval Instruments

IM100	Max 6/15 kg	Min 40 g	e=2/5 g
Net	0.550 kg	\$ 9.80	/kg
Tare	0.028 kg	\$ 5.39	TO PAY
Sirloin Steak			

(c) Typical Display Layout for Multi-interval Instruments

FIGURE 6/4D/337 – 2



Seal hole, preventing access to screw which holds case together, and hence preventing access within the instrument case. Location is beneath platter.



Typical Sealing Arrangements

FIGURE 6/4D/337 – 3



Model IM 202



Model IM 300 – single PLU
keyboard



Model IM 300 – with 2 PLU keyboards



Model IM 400

Showing Various Models – Variants 3 to 5

FIGURE 6/4D/337 – 4



Avery Berkel Model IM 500 Suspended Instrument (incl. typical sealing)
(Variant 6)