Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Cancellation
Certificate of Approval
NMI 6/4D/324

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that the approval for use for trade granted in respect of the

Avery Berkel Model M^2 100 Weighing Instrument

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

has been cancelled in respect of new instruments as from 1 March 2016.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 5 approved – interim certificate issued	9/06/05
1	Pattern & variants 1 to 6 approved – certificate issued	23/06/05
2	Variant 7 approved – certificate issued	4/10/05
3	Variants 8 & 9 approved – certificate issued	21/07/06
4	Pattern & variants 1 to 9 reviewed – certificate issued	15/10/10
5	Pattern & variants 1 to 9 cancelled – cancellation certificate issued	12/02/16

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

6/4D/324
15 October 2010

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/4D/324
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

Avery Berkel Model M^2 100 Weighing Instrument

submitted by Avery Berkel (a Division of ITW Limited)
(formerly Avery Weigh-Tronix Ltd)
Foundry Lane
Smethwick
West Midlands B662LP UNITED KINGDOM.

A. In Certificate of Approval No 6/4D/324 dated 21 July 2006:

1. All references to the name of the submittor should be amended to read:

   "Avery Berkel (a Division of ITW Limited)"

2. The Condition of Approval referring to the review of the approval should be amended to read:

   "This approval becomes subject to review on 1 July **2015**, and then every 5 years thereafter."

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

   "Notification of Change No 1 dated 15 October 2010"

B. In Technical Schedule dated 23 June 2005, and in Technical Schedule No 6/4D/324 Variation No 1 dated 4 October 2005, and in Technical Schedule No 6/4D/324 Variation No 2 dated 21 July 2006, all references to the name of the submittor should be amended to read:

   "Avery Berkel (a Division of ITW Limited)"

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

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

No 6/4D/324

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

Avery Berkel Model M^2 100 Weighing Instrument

submitted by Avery Weigh-Tronix Ltd
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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 July 2010, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NMI 6/4D/324 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 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.

The National Measurement Institute 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.

Special Condition of Approval:

Certain aspects of this instrument (in particular label and ticket formats) are able to be configured by the user. Whilst NMI believes that acceptable label and ticket 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.

DESCRIPTIVE ADVICE

Pattern: approved 9 June 2005

- An Avery Berkel model M^2 100 single interval self-indicating price-computing weighing instrument with a maximum capacity of 6 kg.

Variants: approved 9 June 2005

1. Models M^2 200 and M^2 202 with column-mounted display(s).
2. Model M^2 300 with column-mounted self service keyboard.
3. Models M^2 400, M^2 410 and M^2 420 with two piece construction.
4. With certain other maximum capacities.
5. As multi-interval instruments of certain capacities.
6. With a touch screen vendors display/keyboard.

Technical Schedule No 6/4D/324 describes the pattern and variants 1 to 6.

Variant: approved 30 September 2005

7. With a maximum capacity of 30 kg.

Technical Schedule No 6/4D/324 Variation No 1 describes variant 7.

Variants: approved 20 July 2006

8. Model M^2 601.
9. Models M^2 603.

Technical Schedule No 6/4D/324 Variation No 2 describes variants 8.

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FILING ADVICE

Certificate of Approval No 6/4D/324 dated 4 October 2005 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/324 dated 21 July 2006
Technical Schedule No 6/4D/324 dated 23 June 2005 (incl. Test Procedure)
Technical Schedule No 6/4D/324 Variation No 1 dated 4 October 2005
Technical Schedule No 6/4D/324 Variation No 2 dated 21 July 2006
Figures 1 to 6 dated 23 June 2005
Figures 7 to 9 dated 21 July 2006

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

TECHNICAL SCHEDULE No 6/4D/324

Pattern: Avery Berkel Model M² 100 Weighing Instrument

Submittor: Avery Weigh-Tronix Ltd
Foundry Lane
Smethwick
West Midlands B66 2LP UK

1. Description of Pattern

An Avery Berkel model M² 100 single interval self-indicating price-computing weighing instrument (Figure 1) of maximum capacity of 6 kg with a verification scale interval of 0.001 kg.

Instruments are fitted with an operator display on one side of the instrument, a customer display on the other, and an integral printer (#). The displays are dot matrix liquid crystal display (LCD) panels. 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, and may be fitted with output sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices.

The instrument operates from mains AC power.

(#) Refer to the Special Condition of Approval.

1.1 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 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.

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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.

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/Certification Provision

Provision is made for the application of a verification/certification mark.

1.7 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of a destructible label placed over the calibration adjustment access hole located on the underside of the instrument, and also over a screw beneath the instrument platter, as shown in Figure 2.

1.8 Descriptive Markings

Instruments carry the following markings:

Manufacturer's mark, or name written in full	Avery Berkel	
Name or mark of manufacturer's agent	……..	
Indication of accuracy class	(III)	
Pattern approval mark for the instrument	NMI 6/4D/324	
Maximum capacity	*Max*…… g or kg	#1
Minimum capacity	*Min*……. g or kg	#1
Verification scale interval	*e* = ……. g or kg	#1
Maximum subtractive tare	*T* = - …. 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 Variants

2.1 Variant 1

The models M^2 200 and M^2 202 which are similar to the M^2 100 but have either the customer display (M^2 200) or both displays (M^2 202) mounted on a column (Figure 3).

2.2 Variant 2

The model M^2 300 (Figure 4) which is similar to the M^2 100 (the pattern) but which has a single display (for the self service customer/operator) and is arranged as a self-service instrument, with a column-mounted self service keyboard. In this self-service arrangement, stored tare values may be associated with product look up (PLU) keys. However the use of stored tare values associated with PLU keys shall be at the discretion of the applicable trade measurement authority, who may require various operational instructions and notes regarding the appropriate container for each product. Other tare facilities and operator keys (other than the PLU keys) shall be disabled.

Note: This instrument (with single display) if used in other than a self-service situation, is NOT TO BE USED FOR TRADING DIRECT WITH THE PUBLIC, and shall carry markings to that effect.

2.3 Variant 3

The models M^2 400, M^2 410 and M^2 420 (Figure 5) which are similar to the M^2 100 (the pattern) but have the operator controls (and in some cases the printer unit) located separately from the platform.

Note: The model M^2 420 may be provided with two integral printers (as shown in Figure 5) to facilitate label and/or ticket printing. These printers may also be used for other purposes (not measurement related).

2.4 Variant 4

The pattern or variants as single interval instruments of certain other capacities as listed below:

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

2.5 Variant 5

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

- with a verification scale interval of 0.001 kg up to 3 kg and with a verification scale interval of 0.002 kg from 3 kg up to 6 kg. The pre-set tare capacity is limited to a maximum of 3 kg; and

- with a verification scale interval of 0.002 kg up to 6 kg and with a verification scale interval of 0.005 kg from 6 kg up to 15 kg.

  The pre-set tare capacity is limited to a maximum 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 Markings**.

2.6 Variant 6

Any model of the M^2 100, M^2 200 or M^2 400 series approved herein, now fitted with a touch screen on the vendors display for the selection of PLU and function keys as shown in Figure 6.

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

Maximum Permissible Errors at Verification/Certification

For single interval instruments, the maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, m, expressed in verification scale intervals, e, are:

± 0.5e for loads $0 \leq m \leq 500$;
± 1.0e for loads $500 < m \leq 2\,000$; and
± 1.5e for loads $2\,000 < m \leq 10\,000$.

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

6/4D/324
4 October 2005

TECHNICAL SCHEDULE No 6/4D/324

VARIATION No 1

Pattern: Avery Berkel Model M^2 100 Weighing Instrument

Submittor: Avery Weigh-Tronix Ltd
Foundry Lane
Smethwick
West Midlands B66 2LP UK

1. Description of Variant 7

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;
- Single interval instruments of 30 kg maximum capacity, with a verification scale interval of 0.010 kg; or
- Multi-interval instruments with a verification scale interval (*e*,) 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. The pre-set tare capacity is limited to a maximum 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 Markings**.

TECHNICAL SCHEDULE No 6/4D/324

VARIATION No 2

Pattern: Avery Berkel Model M^2 100 Weighing Instrument

Submittor: Avery Weigh-Tronix
Foundry Lane
Smethwick, West Midlands B66 2LP UK

1. Description of Variants

1.1 Variant 8

An Avery Berkel model M^2 601 self-indicating price-computing weighing instrument which is similar to the model M^2 100 (the pattern) but has the weighing unit separate to the indicator/printer module (Figure 7).

The load receptor has maximum dimensions of 280 mm x 380 mm.

The model M^2 601 may also be incorporated into a model WWS3 wrapping unit (Figure 8).

Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording) unless they are fitted with a customer display.

1.2 Variant 9

An Avery Berkel model M^2 603 self-indicating price-computing weighing instrument which is similar to the model M^2 601 (variant 8) but which is incorporated into various wrapping units (Figure 9).

The load receptors of the resulting instruments shall have maximum dimensions of 280 mm x 380 mm.

Instruments shall be non-automatic weighing instruments with labels applied manually, although the wrapping operations may be automatic.

Note that the maximum weight of packages that can be wrapped may be less than the maximum weighing capacity.

FIGURE 6/4D/324 – 1

Avery Berkel Model M² 100 Weighing Instrument and
Typical Display Layout

FIGURE 6/4D/324 – 2

Sealing of Calibration Access Hole – Beneath Instrument

Sealing of Calibration Access

FIGURE 6/4D/324 – 3

Avery Berkel Model M² 200

Avery Berkel Model M² 202

FIGURE 6/4D/324 – 4

Avery Berkel Model M^2 300

FIGURE 6/4D/324 – 5

Avery Berkel Model M² 400

Avery Berkel Model M² 410

Avery Berkel Model M² 420

FIGURE 6/4D/324 – 6

Avery Berkel Touch Screen Keyboard/Vendors Display – Typical PLU Screen

FIGURE 6/4D/324 – 7

Avery Berkel Model M^2 601 Weighing Instrument

FIGURE 6/4D/324 – 8

Avery Berkel Model M^2 601 in a Model WWS3 Wrapping Unit

FIGURE 6/4D/324 – 9

Typical Avery Berkel Model M^2 603 Weighing Instruments