Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

# Certificate of Approval
# NMI 6/4D/354

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 XM 400 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 1/08/15, and then every 5 years thereafter.

DOCUMENT HISTORY

| Rev | Reason/Details | Date |
|---|---|---|
| 0 | Pattern & variants 1 to 4 approved – certificate issued | 29/07/10 |
| 1 | Pattern amended – notification of change issued | 26/11/10 |
| 2 | Pattern & variants 1 to 4 updated – variants 5 & 6 approved – certificate issued | 24/02/12 |
| 3 | Pattern & variants 1 to 6 cancelled – cancellation certificate issued | 12/02/16 |
| 4 | Pattern & variants 1 to 6 re-approved (cancellation rescinded) – certificate issued | 25/02/16 |

# CONDITIONS OF APPROVAL

## General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4D/354' 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.

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 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.

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/354

## 1. Description of Pattern

**approved on 29/07/10**
**re-approved on 25/02/16**

An Avery Berkel model XM 400 class (III) non-automatic self-indicating price-computing multi-interval weighing instrument with a verification scale interval ($e_1$) of 0.002 kg up to 6 kg and a verification scale interval ($e_2$) of 0.005 kg from 6 kg up to the maximum capacity of 15 kg.

Instruments are fitted with a column-mounted TFT colour touchscreen operator display/keyboard and a column-mounted TFT colour customer display (Figure 1). The operator touchscreen consists of displays for presentation of tare, weight, unit price and price information, zero, 'net' indicators and functions relating to product look up (PLU) items.

Instruments are fitted with an integral printer, for printing of labels or tickets.

Instruments have unit price to $9999.99/kg, price to $99999.99, and 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).

### 1.1 Zero

A zero-tracking device may be fitted.

The initial zero-setting device of the pattern has a nominal range of approximately 20% of the maximum capacity of the instrument.

The instrument has automatic and semi-automatic zero-setting devices with a nominal range of not more than 4% of the maximum capacity of the instrument.

The automatic zero-setting device operates only when the instrument has been stable below zero for at least 5 seconds.

### 1.2 Tare

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

Pre-set tare values may be associated with product look up (PLU) items. The maximum pre-set tare value is equal to maximum capacity of the instrument (single interval instruments only, see variants) or to the limit of the first partial weighing range (multi-interval instruments).

A display of tare values is provided.

### 1.3 Display Check

A display check is initiated whenever power is applied.

## 1.4 Networking

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

In addition, the instrument may be interfaced with a computer for the collection of management data and 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.

## 1.5 Levelling

The instrument is provided with adjustable feet and an automatic tilt sensor/compensation device that automatically compensates for out of level conditions up to ±5° in longitudinal or transverse directions. If this value is exceeded then the weight indications are replaced by a series of diagonal bars and the price-to-pay indications are inhibited.

## 1.6 Descriptive Markings and Notices

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/354 |
| 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 | …….. |

For single interval instruments (see variants) there is only one range therefore only one value of maximum capacity and verification scale interval to be marked.

#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*.

## 1.7 Verification Provision

Provision is made for the application of a verification mark.

## 1.8 Sealing Provision

Provision is made for the configuration parameters and calibration adjustments to be sealed by means of a destructible adhesive label placed over the securing screw of the load cell cover and the service mode switch access hole on the load cell cover, as shown in Figure 2.

The seal can be viewed through a transparent cover, which may be removed for sealing purposes, located in the centre of the top housing on the left hand side of the instrument, when viewed from the vendor side, after removal of the load receptor (Figure 2).

## 2. Description of Variant 1 — approved on 29/07/10 re-approved on 25/02/16

Certain other capacities of the Avery Berkel model XM 400 multi-interval instruments 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 of ($e_2$) of 0.002 kg from 3 kg up to the maximum capacity of 6 kg; and

(ii) With a verification scale interval ($e_1$) of 0.005 kg up to 15 kg and with a verification scale interval of ($e_2$) of 0.010 kg from 15 kg up to the maximum capacity of 30 kg.

## 3. Description of Variant 2 — approved on 29/07/10 re-approved on 25/02/16

Certain capacities of the Avery Berkel model XM 400 single interval instruments as listed below:

(i) With a maximum capacity of 6 kg and a verification scale interval of 0.001 kg;

(ii) With a maximum capacity of 15 kg and a verification scale interval of 0.005 kg;

(iii) With a maximum capacity of 30 kg and a verification scale interval of 0.010 kg; and

(iv) With a maximum capacity of 30 kg and a verification scale interval of 0.005 kg.

Instruments are marked in accordance with clause **1.6 Descriptive Markings and Notices** except that there is only one value of maximum capacity and verification scale interval.

## 4. Description of Variant 3 — approved on 29/07/10 re-approved on 25/02/16

The Avery Berkel model XM 200 single or multi-interval instruments which are similar to the pattern but the operator display/keyboard is attached to the main instrument housing rather than mounted on the column (Figure 3a).

The model XM 200 instruments may be in any capacity listed for the model XM 400 (the pattern and variants 1 & 2).

## 5. Description of Variant 4 — approved on 29/07/10 re-approved on 25/02/16

The Avery Berkel model XM 100 single or multi-interval instruments as ‘bench’ style instruments which are similar to the pattern but in which the customer and vendor displays are incorporated within the main instrument housing (Figure 3b).

The model XM 100 instruments may be in any capacity listed for the model XM 400 (the pattern and variants 1 & 2).

## 6. Description of Variant 5 — approved on 29/07/10 re-approved on 25/02/16

The Avery Berkel model XM 420 single or multi-interval instruments which are similar to the pattern but having an additional printer integrated in the display/keyboard (Figure 4a).

The model XM 420 instruments may be in any capacity listed for the model XM 400 (the pattern and variants 1 & 2).

## 7. Description of Variant 6 — approved on 24/02/11 re-approved on 25/02/16

The Avery Berkel model XM 410 single or multi-interval instruments which are similar to the pattern but a ticket printer is integrated in the display/keyboard rather than the main instrument housing (Figure 4b).

The model XM 410 instruments may be in any capacity listed for the model XM 400 (the pattern and variants 1 & 2).

TEST PROCEDURE No 6/4D/354

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

### Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

For multiple range 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.

FIGURE 6/4D/354 – 1


Avery Berkel Model XM 400 Weighing Instrument

FIGURE 6/4D/354 – 2


(a) Position of Seal Label - Viewed through Protective Cover


(b) Sealing of Calibration Switch Access Hole and Security Screw
(Shown with protective cover removed)

Typical Sealing of XM Series

FIGURE 6/4D/354 – 3


(a) Avery Berkel Model XM 200 Weighing Instrument


(b) Avery Berkel Model XM 100 Weighing Instrument

FIGURE 6/4D/354 – 4

(a) Avery Berkel Model XM 420 Weighing Instrument

(b) Avery Berkel Model XM 410 Weighing Instrument

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