Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Certificate of Approval
NMI 6/4D/387

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 XTi 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 October 2015.

This approval becomes subject to review on 1/01/22, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 10 approved – certificate issued	6/12/16

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4D/387' 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 Certificate 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*.

Mario Zamora

TECHNICAL SCHEDULE No 6/4D/387

1. Description of Pattern approved on 6/12/16

An Avery Berkel model XTi 400 class (III) non-automatic self-indicating, price-computing, multi-interval weighing instrument (Figure 1) 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. 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 $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.

Instruments may be fitted with Pre-pack Print Mode for printing label when the instrument is used for pre-packaging operation. Only Pre-pack Print Mode for printing label should be used for pre-packaging operation.

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

(#) Refer to the Special Condition of Approval in the certificate.

1.1 Zero

A zero-tracking device may be fitted, with a nominal range of not more than 4% of the maximum capacity of the instrument.

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 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 subtractive tare device of up to the maximum capacity of the instrument may be fitted.

A keyboard-entered pre-set subtractive tare device 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 the limit of the first partial weighing range (Max_1)

A separate display is provided for both pre-set tare and semi-automatic tare. The tare value is displayed as a negative mass value when the load receptor is empty.

1.3 Display Check

The instrument has TFT, WVGA colour non-segmented display. A display check at power on is not required.

1.4 Networking

A number of XTi 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 are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full	…….
Name or mark of manufacturer's agent	…….
Indication of accuracy class	(III)
Pattern approval number for the instrument	NMI 6/4D/387
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).

1.9 Software

The software for the instruments is segregated into legally relevant and non-legally relevant modules. Legally relevant software parts include:

- Load cell software: V1.x.x.x
- Legally relevant library software: V3.x.x.x
- Application software: V5.x.x.x

where 'x' represents minor software updates.

2. Description of Variant 1 approved on 6/12/16

Certain other capacities of the Avery Berkel XTi 400 series of 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 6/12/16

Certain capacities of the Avery Berkel XTi 400 series of 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;

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

The maximum pre-set tare value is equal to the maximum capacity of the instrument for single interval instruments.

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 6/12/16

The Avery Berkel XTi 200 series of 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 3).

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

5. Description of Variant 4 approved on 6/12/16

The Avery Berkel XTi 100 series of 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 4).

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

6. Description of Variant 5 approved on 6/12/16

The Avery Berkel XTi 101 series of single or multi-interval instruments which are similar to the XTi 100 series (variant 4) but which do not have a customer display and is arranged as a self-service instrument.

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 shall be disabled, other than the 'PRINT' key.

The XTi 101 series of instruments may be in any capacity listed for the XTi 400 series (the pattern and variants 1 & 2).

7. Description of Variant 6 approved on 6/12/16

The Avery Berkel XTi 420 series of single or multi-interval instruments which are similar to the pattern but include an additional receipt printer incorporated into the operator keyboard/display as shown in Figure 5a.

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

8. Description of Variant 7 approved on 6/12/16

The Avery Berkel XTi 500 series of single or multi-interval instruments of a hanging scale construction as shown in Figure 6a.

The XTi 500 series of instruments may be in capacities of 15 kg × 0.005 kg (single interval) or 6/15 kg × 0.002/0.005 kg (multi-interval) only.

9. Description of Variant 8 approved on 6/12/16

The Avery Berkel models XTx 400, XTx 200, XTx 100, XTx 300, XTx 101 and XTx 420 single or multi-interval instruments which are similar to the pattern and variants 3 to 6 but utilise a Microsoft 'Windows' operating system.

These models may be in any capacity listed for the XTi 400 series (the pattern and variants 1 & 2).

10. Description of Variant 9 approved on 6/12/16

The Avery Berkel models XTs 400, XTs 200 (Figure 3b), XTs 100 (Figure 4b), XTs 101, XTs 420 (Figure 5b), and XTs 500 (Figure 6b) single or multi-interval instruments which are similar to the pattern and variants 1 to 8. The difference is the XTs series has a 7 inch colour touch-screen display/keyboard and a separate 17 key tactile keypad with fixed function and numeric keys.

11. Description of Variant 10 approved on 6/12/16

The Avery Berkel XTi 300 series of single or multi-interval instruments which are similar to the pattern but which do not have a customer display and are arranged as self-service instruments. The self-service touch screen display is mounted on a column (Figure 7).

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 shall be disabled, other than the 'PRINT' key.

The XTi 300 series instruments may be in any capacity listed for the XTi 400 series (the pattern and variants 1 & 2).

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 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

FIGURE 6/4D/387 – 1

Avery Berkel Model XTi 400 Weighing Instrument (Pattern)

FIGURE 6/4D/387 – 2

Position of seal label - viewed through protective cover

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

Typical Sealing of XTi/XTs/XTx Series

FIGURE 6/4D/387 – 3

(a) Model XTi 200 (Variant 3)

(b) Model XTs 200 (Variant 9)

FIGURE 6/4D/387 – 4

(a) Model XTi 100 (Variant 4)

(b) Model XTs 100 (Variant 9)

FIGURE 6/4D/387 – 5

(a) Model XTi 420 (Variant 5)

(b) Model XTs 420 (Variant 9)

FIGURE 6/4D/387 – 6

(a) Model XTi 500 (Variant 5)

(b) Model XTs 500 (Variant 9)

FIGURE 6/4D/387 – 7

Model XTi 300 (Variant 10)

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