



Australian Government

**Department of Industry,
Science and Resources**

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/323

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.

A & D Model GX-603A Weighing Instrument

submitted by A & D Australasia Pty Ltd
32 Dew Street
Thebarton SA 5031

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 is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – certificate issued	04/05/22
1	Variant 2 approved – certificate issued	20/05/25

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4C/323' 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 Certificate of Approval No S1/0B.

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



Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 6/4C/323

1. Description of Pattern**approved on 04/05/22**

The A & D model GX-603A high accuracy class II self-indicating single interval non-automatic weighing instrument (Figure 1 and Table 1) of 620 g maximum capacity with a verification scale interval of 0.01 g. The minimum capacity of the instrument is 0.02 g.

Instruments are a magnetic force compensation type and have an LCD display for display of the weight value.

Instruments have a standard square platter (Figure 1).

Instruments may be provided with a 'breeze break' (windshield) over a smaller square platter as shown in Figure 2.

Instruments are approved for use over a temperature range of +10 °C to +30 °C, and are so marked.

Instruments are not for trading direct with the public, and are so marked.

Instruments may be fitted with output sockets (output interfacing capability) for the connection of auxiliary and/or peripheral devices.

Note: Surge testing has not been carried out as the manufacturer has indicated that typical installations risk of a significant influence of surges is not expected – i.e. intended installation is wholly indoors with signal lines of 30 m or less.

1.1 Zero and Tare

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.

Instruments have a combined semi-automatic zero-setting and subtractive tare balancing device (operated by the 'RE-ZERO' key). Operation of this device zeroes the instrument if the load is within the zero-setting range (up to 4% of the maximum capacity of the instrument), otherwise the instrument is tared.

The subtractive taring device operates up to the maximum capacity of the instrument.

1.2 Differentiated Scale Division

Instruments have an auxiliary indicating device (a differentiated scale division (digit) which is shown in a double bracket (Figure 3) in the display) with a value as shown in the 'Scale Interval (*d*)' column of Table 1.

Scale intervals other than verification scale interval are not approved for trade use.

The differentiated scale division shall only be used for a weight value to be rounded to the nearest verification scale interval or determination of the zero position.

1.3 Alternative Units

Use of units other than grams (g) is not approved for trade use.

1.4 Power Supply

Power may be supplied by an AC/DC mains adaptor.

Note: The AC/DC mains adaptor supplied for the instrument was an AND mains adaptor type TB-284S switch-mode power supply model 6A-061WS12 (output 12 V DC, 0.5 A) – the submitter should be consulted regarding the acceptability of alternative power supply units.

1.5 Display Check

A display check is initiated when the instruments are switched on.

1.6 Levelling

The instrument is provided with adjustable feet and a level indicator.

The instrument is to be used in a level condition as indicated by the level indicator.

1.7 Additional Features

Instruments may be fitted with a number of management functions including comparator ('HH HI OK LO LL'), percentage ('%'), counting ('pcs') and holding (animal weighing), statistical calculation, flow measurement, density (specific gravity) measurement, impact detection and repeatability check. These functions and displays are not approved for trade use.

1.8 Interfaces

Instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R76 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces shall only be used for trade in compliance with General Supplementary Certificate of Approval No S1/0/B (in particular in regard to the data and its format).

Instruments may be fitted with RS-232 and USB interfaces.

1.9 Descriptive Markings and Notices

The instrument model number is shown on the instrument nameplate. Instruments carry the following markings:

Manufacturer's mark, or name written in full	A&D Company, Limited
Name or mark of manufacturer's agent	A & D Australasia Pty Ltd
Indication of accuracy class	Ⓛ or Ⓜ
Pattern approval number for the instrument	NMI 6/4C/323
Maximum capacity	<i>Max</i> g #
Minimum capacity	<i>Min</i> g #
Verification scale interval	<i>e</i> = g #
Actual scale interval	<i>d</i> = g #
Serial number of the instrument
Special temperature limits	+10 °C to +30 °C

These markings are shown near the display of the result.

In addition, instruments shall carry a notice stating NOT FOR TRADING DIRECT WITH THE PUBLIC, or similar wording.

1.10 Verification Provision

Provision is made for the application of a verification mark.

1.11 Software

The software version is designed P-1.437 or later.

The software version and number can be seen when the AC/DC mains adaptor is first inserted into the instrument.

1.12 Sealing Provision

Provision is made for access to the switch mounted on the main circuit board to be sealed by means of a 'lead and wire' type seal (Figure 4a) or a destructible adhesive label placed over the screw on the protective cover plate (Figure 4b).

2. Description of Variant 1 approved on 04/05/22

Certain other capacities of the A & D model GX-A series of high accuracy class II instruments as listed in Table 1 below (the pattern is shown in **bold**).

Instruments may have a windshield provided over the load receptor.

In each case the subtractive taring device operates up to the maximum capacity of the instrument.

TABLE 1

Model	Maximum Capacity (Max)	Minimum Capacity (Min)	Verification Scale Interval (e)	Scale Interval (d)
GX-203A	220 g	0.02 g	0.01 g	0.001 g
GX-403A	420 g	0.02 g	0.01 g	0.001 g
GX-603A	620 g	0.02 g	0.01 g	0.001 g
GX-2002A	2200 g	0.5 g	0.1 g	0.01 g
GX-4002A	4200 g	0.5 g	0.1 g	0.01 g
GX-6002A	6200 g	0.5 g	0.1 g	0.01 g
GX-6001A	6200 g	5 g	1 g	0.1 g

3. Description of Variant 2 approved on 20/05/25

Certain capacities of the A & D model GX-A series of special accuracy class I instruments (Figure 5) as listed in Table 2 below.

Instruments may have a windshield provided over the circular load receptor.

In each case the subtractive taring device operates up to the maximum capacity of the instrument.

Instruments are approved for use over a temperature range of +10 °C to +30 °C, and are so marked.

3.1 Alternative Units

Use of units other than grams (g) or milligrams (mg) is not approved for trade use.

3.2 Internal Self-Calibration System

Instruments are fitted with an internal 'self-calibration' system. This comprises an internal calibration mass that may be applied to the instrument (in an automatic adjustment cycle), or manually by pressing a key, or a part of switch-on sequence, or according to predetermined criteria (time period and/ or temperature variation).

The display of the instrument provides an indication when the adjustment cycle is about to start.

3.3 Sealing Provision

Sealing of the internal 'self-calibration' adjustments of special accuracy class ① instruments is not required. However, there is provision for access to the switch mounted on the main circuit board to be sealed by means of a 'lead and wire' type seal (Figure 4a) or a destructible adhesive label placed over the screw on the protective cover plate (Figure 4b).

Instruments are provided with an integral/internal 'self-calibration' system; Sealing of the instrument does not prevent operation of this system, however the system uses data regarding the value of internal mass, and alteration of that data is prevented.

TABLE 2

Model	Maximum Capacity (Max)	Minimum Capacity (Min)	Verification Scale Interval (e)	Scale Interval (d)	Platter
GX-224A	220 g	0.01 g	0.001 g	0.0001 g	Circular with windshield
GX-324A	320 g	0.01 g	0.001 g	0.0001 g	Circular with windshield

TEST PROCEDURE No 6/4C/323

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*.

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

FIGURE 6/4C/323 – 1



Typical A & D GX-A Series Weighing Instrument

FIGURE 6/4C/323 – 2



GX-A Series Instruments Fitted With Alternative 'Breeze Breaks' (Windshields)

FIGURE 6/4C/323 – 3



Differentiated Scale Division

FIGURE 6/4C/323 – 4



(a) Sealing Arrangement Using Lead and Wire Type



(b) Sealing Arrangement Using Destructible Adhesive Label

Typical Sealing Method

FIGURE 6/4C/323 – 5



A & D GX-A Series Weighing Instrument (Variant 2)

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