



Australian Government

Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval
NMI 6/4C/269

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 FZ-3000i 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 & variants 1 to 2 approved – certificate issued	15/06/11
1	Pattern amended (Table 1 and sealing method) and variant 3 approved & NMI R 76 updated to 2015 edition & review date removed – certificate issued	30/07/26
2	Pattern amended – certificate issued	16/09/26

CONDITIONS OF APPROVAL

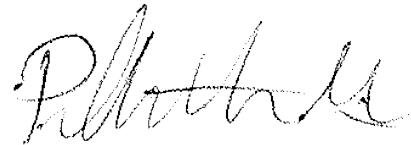
General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/269' 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 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.



Phillip Mitchell
A/g Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 6/4C/269

1. Description of Pattern

**approved on 15/06/11
amended on 30/07/26
amended on 16/09/26**

The A & D model FZ-3000*i* self-indicating single interval non-automatic weighing instrument of high accuracy class **II** of 3200 g maximum capacity with a verification scale interval of 0.1 g (Figure 1 and Table 1).

Instruments are a magnetic force compensation type and have a vacuum fluorescent display (VFD).

Instruments may have a circular or a 180 × 180 mm square platter (Figure 1).

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

Instruments may be provided with a 'breeze break' (windshield); two versions are 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, with the exception of instruments used for the weighing of precious metals and stones provided that instruments are located such that the instrument and its display are clearly visible to both parties to the transaction.

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

Instruments are powered by any of the following power supplies:

- ELJINTEK Co Type TB-139A model MKD-150400SA linear mode (15 V DC, 0.4 A);
- ENG Electric Co Ltd Type TB-S139 model 3A-066WP15 switching mode (15 V DC, 0.4 A);
- ELJINTEK Co Type TB-301 model GPSU15SA-3 switching mode (12 V DC, 1.25 A); or
- ENG Electric Co Ltd Type TB-238S model 3A-051WS12 switching mode (12 V DC, 0.42 A).

The submittor should be consulted regarding the acceptability of alternative power supply units.

1.1 Zero and Tare

Instruments have an initial zero-setting device with 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 to within $\pm 0.25e$ if the load is within the zero-setting range (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.

A zero-tracking device may also operate to automatically correct to within $\pm 0.25e$ whenever the instrument comes to rest with the display indicating zero (including net zero).

1.2 Alternative Units

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

1.3 Management Functions

Instruments may be fitted with a number of additional functions including statistical calculation, percentage (%) and counting (pcs). These functions and displays are not approved for trade use.

1.4 Display Check

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

1.5 Levelling

Instruments are provided with adjustable feet and a level indicator, adjacent to which is a notice stating 'Instrument must be level when in use', or similar wording.

1.6 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 the CAL key, or according to predetermined criteria (time period and/or temperature variation).

The effect of any calibration adjustment due to this system is limited to a difference of $\pm 0.5e$ at maximum capacity from the previous calibration value.

1.7 Sealing Provision

Sealing of the calibration adjustment is provided by preventing access to the switch mounted on the main circuit board. Access to this switch is protected by using lead and wire type seals (Figure 3a) or applying destructible adhesive labels over the opposite sides of the protective cover plate (Figure 3b).

Instruments are provided with an integral '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.

1.8 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	II
Pattern approval mark for the instrument	NMI 6/4C/269
Maximum capacity	Max g *
Minimum capacity	Min g *

Verification scale interval	$e = \dots\dots\dots g$	*
Actual scale interval	$d = \dots\dots\dots g$	*
Tare capacity (if less then <i>Max</i>)	$T = - \dots\dots\dots g$	
Serial number of the instrument	$\dots\dots\dots$	
Special temperature limits	$+10\text{ }^{\circ}\text{C}$ to $+30\text{ }^{\circ}\text{C}$	

* These markings are shown near the display of the result.

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

2. Description of Variant 1 approved on 15/06/11

Certain other capacities of the FZ-*i* series instruments as listed in Table 1.

3. Description of Variant 2 approved on 15/06/11

Any model of the FZ-*i* series instrument listed in Table 1 (for the pattern and variant 1) which are similar to the pattern but now have waterproof/dustproof capability, in which case the model number has a 'WP' suffix.

TABLE 1 Approved Models of The FZ-*i* Series

Note: The **bold** letters indicate the specifications of the pattern.

Model Number (#)	Maximum Capacity (<i>Max</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e</i>)	Scale Interval (<i>d</i>)
FZ-120 <i>i</i>	122 g	0.02 g	0.01 g	0.001 g
FZ-200 <i>i</i>	220 g	0.02 g	0.01 g	0.001 g
FZ-300 <i>i</i>	320 g	0.02 g	0.01 g	0.001 g
FZ-1200 <i>i</i>	1220 g	0.5 g	0.1 g	0.01 g
FZ-2000 <i>i</i>	2200 g	0.5 g	0.1 g	0.01 g
FZ-3000<i>i</i>	3200 g	0.5 g	0.1 g	0.01 g

(#) The model number may have a 'WP' suffix if the instrument conforms to Variant 2.

4. Description of Variant 3 approved on 30/07/26

The A&D FZ series instruments which are similar to the pattern and variant 2 but having a reverse backlit LCD display in certain capacities as listed in Table 2.

TABLE 2

Model Number (*)	Maximum Capacity (<i>Max</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e</i>)	Scale Interval (<i>d</i>)
FZ-123	122 g	0.02 g	0.01 g	0.001 g
FZ-223	220 g	0.02 g	0.01 g	0.001 g
FZ-323	320 g	0.02 g	0.01 g	0.001 g

FZ-523	520 g	0.02 g	0.01 g	0.001 g
FZ-1202	1220 g	0.5 g	0.1 g	0.01 g
FZ-2202	2200 g	0.5 g	0.1 g	0.01 g
FZ-3202	3200 g	0.5 g	0.1 g	0.01 g

(*) If instruments have waterproof/dustproof capability, in which case the model number has a 'WP' suffix.

4.1 Power Supply

Instruments use an AND Type TB-284S model 6A-061WS12 switch mode AC/DC mains adaptor (output 12 V DC, 0.5 A); the submittor should be consulted regarding the acceptability of alternative power supply units.

4.2 Interfaces

The indicator 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 R 76 (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 NMI General Supplementary Certificate No S1/0B (in particular in regard to the data and its format).

Indications other than the indications of measured mass (i.e. gross, tare, net, totals) displayed either on the indicator or on an auxiliary or peripheral device, are not for trade use.

Instruments may be fitted with RS-232 or USB or Bluetooth.

4.3 Software

The legally relevant embedded software is designated P-4.xxx, where 'xxx' refers to the identification of non-legally relevant software.

The software version and number can be seen in the switch-on display sequence (when the power is first applied to the instrument).

TEST PROCEDURE No 6/4C/269

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/269 – 1



(a) A & D Model FZ-3000*i* Weighing Instrument



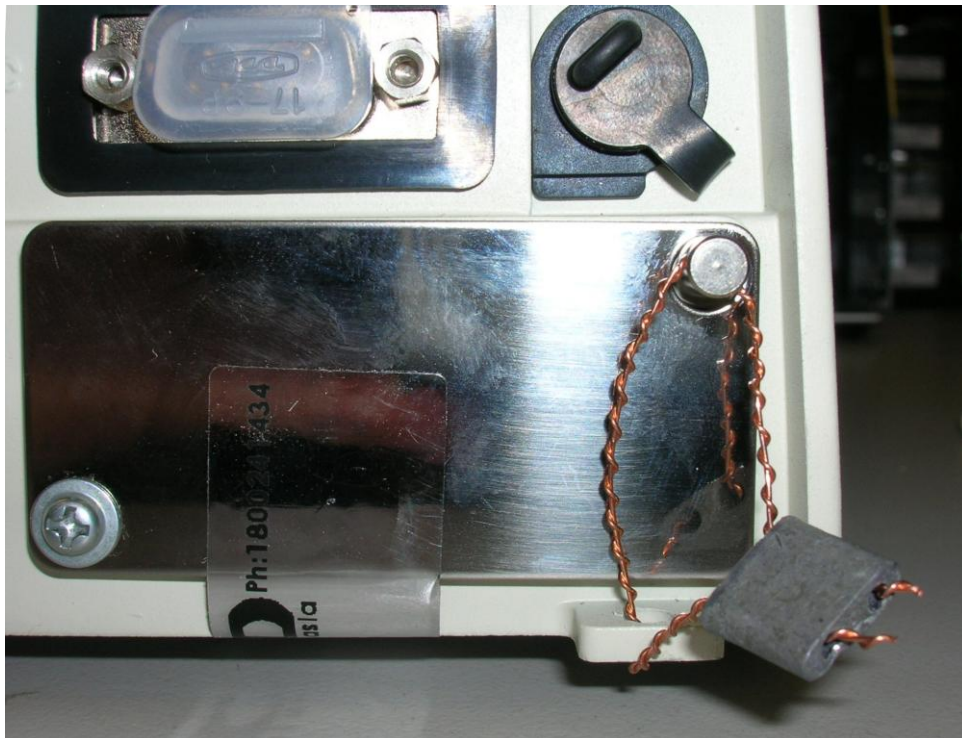
(b) Model FZ-3000*i* With a Square Platter

FIGURE 6/4C/269 – 2



FZ-*i* Series Instruments Fitted With Alternative 'Breeze Breaks' (Windshields)

FIGURE 6/4C/269 – 3



(a) Lead and Wire Type Seals



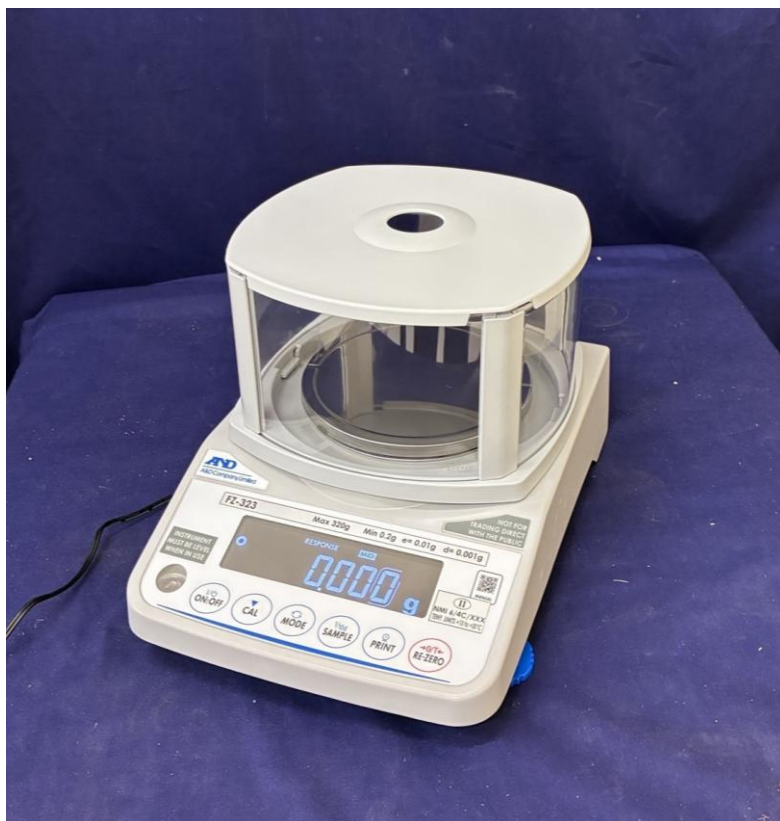
(b) Destructible Adhesive Labels Seals

Typical Sealing Methods – FZ-i & FZ Series

FIGURE 6/4C/269 – 4



FZ Series Instruments



FZ Series Instruments Fitted With Alternative 'Breeze Breaks' (Windshields)

~ End of Document ~