



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/220

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 GP-30K Weighing Instrument

submitted by A & D Australasia Pty Ltd
 (formerly A & D Mercury 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 July 2004.

This approval becomes subject to review on **1/08/19**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 & 2 approved – interim certificate issued	31/07/03
1	Pattern & variants 1 & 2 approved – certificate issued	4/09/03
2	Pattern & variants 1 & 2 reviewed– notification of change issued	9/10/08
3	Pattern & variants 1 & 2 reviewed & updated – certificate issued	16/06/14

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI (or NSC) 6/4C/220' 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 Certificates No S1/0/A or 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*.



Dr A Rawlinson

TECHNICAL SCHEDULE No 6/4C/220

1. Description of Pattern

approved on 31/07/03

An A & D model GP-30K Class II weighing instrument (Figure 1 and Table 1) of 31 000 g maximum capacity with a verification scale interval (e) of 1 g and a scale interval (d) of 0.1 g. May also be known as 'A & D Australasia' or 'A & D Mercury' instruments of the same model.

The instrument is an electromagnetic force compensation type and the display is a vacuum fluorescent type.

Instruments are approved for use over a temperature range of $+10^{\circ}\text{C}$ to $+30^{\circ}\text{C}$, and are so marked. Instruments are not for trading direct with the public, and are so marked.

Instruments are powered by an A&D Mercury type TB-139 mains adaptor (Output 17 V DC, 350 mA). The submitter should be consulted regarding the acceptability of alternatives.

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

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.

The 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 $\pm 0.5d$ 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 $\pm 0.5d$ whenever the instrument comes to rest with the display indicating zero (including net zero).

1.2 Management Functions

Instruments may be fitted with a number of additional functions which display values that are not weighing results (e.g. counting or percentage). The displays of such values are identified by the symbols 'pcs' or '%'. These functions and displays are not approved for trade use.

1.3 Display Check

A facility to enable checking of the display is initiated when the instrument is switched on at the indicator ON/OFF key.

1.4 Levelling

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


1.5 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 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 $\pm 1e$ at maximum capacity from the previous calibration value.

1.6 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, Japan
Name or mark of manufacturer's agent
Indication of accuracy class	
Pattern approval mark for the instrument	NMI (or NSC) No 6/4C/220
Maximum capacity	<i>Max</i> kg or g #
Minimum capacity	<i>Min</i> kg or g #
Verification scale interval	<i>e</i> = kg or g #
Actual scale interval	<i>d</i> = kg or g #
Serial number of the instrument
Special temperature limits	+10°C to +30°C

These markings shall also be shown near the display of the result if they are not already located there.

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

Note: For instruments with the 'smart range' feature (variant 2) the scale interval may be shown as (for example) 'd = 1 / 0.1 g' where the second number is the scale interval in the 'smart range' and the first number is the scale interval otherwise.

1.3 Verification Provision

Provision is made for the application of a verification mark.

1.4 Sealing Provision

Sealing of the calibration adjustment is provided by preventing access to the switch mounted on the rear of the display board. Access to this switch is protected by applying two destructible adhesive labels over the two halves of the display covers (Figure 2).

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.

2. Description of Variant 1 **approved on 31/07/03**

Certain other models and capacities of the GP series as listed in Table 1.

TABLE 1 – Approved Models of the Standard GP Series

Model	Max (g)	e (g)	d (g)
GP-12K	12 000	1 0.	1
GP-20K	21 000	1 0.	1
GP-60K	61 000	10	1
GP-100K	101 000	10	1

3. Description of Variant 2 **approved on 31/07/03**

Certain models of the GP series with capacities as listed in Table 2 and fitted with the 'smart range' feature whereby they only have a differentiated scale (d) interval for part of their range - the differentiated scale interval is displayed for gross or net loads of up to lower value shown under **Max** in Table 2.

TABLE 2 – Approved Models of the GP Series With the 'Smart Range' Feature

Model	Max (g)	e (g)	d (g)
GP-22K	6100/21 000	1	0.1
GP-32K	6100/31 000	1 0.	1
GP-102K	61 000/101 000	10	1

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 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.

For instruments with an internal self-calibration facility

Prior to verification ensure that the instrument has been adjusted by the internal self-calibration system by continuing to press the 'T' key until the word CALIBRATION appears, and then allow the calibration procedure to proceed to completion (with no load on the platter).

FIGURE 6/4C/220 – 1



A & D Model GP-30K Weighing Instrument

FIGURE 6/4C/220 – 2



Typical Mechanical Sealing

~ End of Document ~