Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/4D/291
Change No 4

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

A & D Mercury Model SF-6KA Weighing Instrument

submitted by A & D Mercury Pty Ltd
(now A & D Australasia Pty Ltd)
32 Dew Street
Thebarton SA 5031.

A. In Certificate of Approval No 6/4D/291 dated 17 October 2000;

1. The Condition of Approval referring to the review of the approval should be amended to read:

   "This approval becomes subject to review on 1 November **2013**, and then every 5 years thereafter."

   Note: The review date was previously amended by Notification of Change No 2 dated 28 July 2004.

2. The DESCRIPTIVE ADVICE should be amended by adding the following to the description of the pattern:

   "May also be known as A & D instruments of the same model."

3. The FILING ADVICE should be amended by adding the following:

   "Notification of Change No 2 dated 28 July 2004
   Notification of Change No 3 dated 3 September 2007
   Notification of Change No 4 dated 1 February 2010"

B. In Certificate of Approval No 6/4D/291 and its Technical Schedule Variation No 1 both dated 17 October 2000, and in Technical Schedule No 6/4D/291 dated 24 December 1989, the references to the name of the submittor should be amended to read:

   "A & D **Australasia** Pty Ltd"

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C. In Technical Schedule No 6/4D/291 dated 24 December 1989, clause **1. Description of Pattern** should be amended by adding the following:

"May also be known as A & D instruments of the same model."

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

6/4D/291
17 October 2000

National Standards Commission

12 Lyonpark Road, North Ryde NSW

Certificate of Approval

No 6/4D/291

Issued under Regulation 63
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

A & D Mercury Model SF-6KA Weighing Instrument

submitted by 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.

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CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 November 2003, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/291 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 Commission 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 the Commission's Document 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

DESCRIPTIVE ADVICE

Pattern: approved 23 October 1998

- An A & D Mercury model SF-6KA multi-interval self-indicating price-computing weighing instrument of 6 kg maximum capacity.

Variant: approved 23 October 1998

1. Other models, configurations and capacities as listed in Tables 1 and 2.

Technical Schedule No 6/4D/291 describes the pattern and variant 1.

Variant: approved 8 September 2000

2. Other models, configurations and capacities as listed in Table 3.

Technical Schedule No 6/4D/291 Variation No 1 describes variant 2.

FILING ADVICE

Certificate of Approval No 6/4D/291 dated 24 December 1998 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/291 dated 17 October 2000
Technical Schedule No 6/4D/291 dated 24 December 1998 (incl. Tables 1 & 2, and Test Procedure)
Technical Schedule No 6/4D/291 Variation No 1 dated 17 October 2000 (incl. Table 3)
Notification of Change No 1 dated 29 February 2000
Figures 1 and 2 dated 24 December 1998
Figure 3 dated 29 February 2000

Signed by a person authorised under Regulation 63 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

TECHNICAL SCHEDULE No 6/4D/291

Pattern: A & D Mercury Model SF-6KA Weighing Instrument.

Submittor: A & D Mercury Pty Ltd
32 Dew Street
Thebarton SA 5031

1. Description of Pattern

An A & D Mercury model SF-6KA multi-interval price-computing weighing instrument (Figure 1 and Table 1) with a verification scale interval (e_1) of 0.001 kg up to 3 kg, and a verification scale interval (e_2) of 0.002 kg from 3 kg up to the maximum capacity of 6 kg.

Instruments have unit price to $99999.99/kg and price to $9999.99 and are fitted with a price look up (PLU) facility.

Instruments are powered by a 240 V supply and may be fitted with output sockets for the connection of peripheral and/or auxiliary devices.

1.1 Zero

Zero is automatically corrected to within $\pm 0.25e_1$ whenever power is applied and whenever the instrument comes to rest within $0.5e_1$ of zero.

The initial zero-setting device has a nominal range of not more than 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.

1.2 Tare

A semi-automatic taring device of up to the instruments maximum capacity may be fitted.

1.3 Display Check

A display check is initiated whenever power is applied.

1.4 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of a seal and sealing wire through the location lug on the calibration switch cover located under the platter.

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1.5 Verification/Certification Provision

Provision is made for the application of a verification/certification mark.

1.6 Levelling

Instruments are provided with adjustable feet and a level indicator.

1.7 Markings

Instruments carry the following markings, in the form shown at right:

Manufacturer's mark, or name written in full	A & D Company Ltd
Indication of accuracy class	(III)
Maximum capacity	*Max* ...../..... kg *
Minimum capacity	*Min* ..... kg *
Verification scale interval	*e* = .../..... kg *
Maximum subtractive tare	*T* = - ..... kg
Serial number of the instrument	.....
Pattern approval mark for the instrument	NSC No 6/4D/291

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

2. Description of Variant 1

Other models, configurations and capacities, including multi-interval instruments as listed in Table 1, and single-interval instruments as listed in Table 2.

Some models are fitted with integral indicators (Figure 2).

TEST PROCEDURE

Instruments should be tested in accordance with any relevant tests specified in the Inspector's Handbook.

Maximum Permissible Errors at Verification/Certification

The maximum permissible errors for increasing and decreasing loads on initial verification/certification for loads, *m*, expressed in verification scale intervals, e, are:

±0.5 *e* for loads $0 \leq m \leq 500$;
±1.0 *e* for loads $500 < m \leq 2\,000$; and
±1.5 *e* for loads $2\,000 < m \leq 10\,000$.

For multi-interval instruments with verification scale intervals of e_1, e_2, ..., apply e_1 for zero adjustment, and for maximum permissible errors apply e_1, e_2, ..., as applicable for the load.

TABLE 1

Model Number	Capacities of Ranges	Verification Scale Interval/s	Indicator Mounting	Display Type	Power Supply
SF-6KA	3/6 kg	1/2 g	Column	VFD (1.)	240 V
SF-15KA	6/15 kg	2/5 g	Column	VFD (1.)	240 V
SF-30KA	15/30 kg	5/10 g	Column	VFD (1.)	240 V
SF-6KB	3/6 kg	1/2 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-15KB	6/15 kg	2/5 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-30KB	15/30 kg	5/10 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-6KC	3/6 kg	1/2 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SF-15KC	6/15 kg	2/5 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SF-30KC	15/30 kg	5/10 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SG-6KA	3/6 kg	1/2 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)
SG-15KA	6/15 kg	2/5 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)
SG-30KA	15/30 kg	5/10 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)

Approved Multi-interval Models and Configurations

NOTES:
1. VFD - Vacuum fluorescent type display
2. LCD - Liquid crystal type display
3. AC adaptor or non-rechargeable batteries
4. AC adaptor or rechargeable or non-rechargeable batteries

TABLE 2

Model Number	Capacities of Ranges	Verification Scale Interval/s	Indicator Mounting	Display Type	Power Supply
SF-6KA	6 kg	2 g	Column	VFD (1.)	240 V
SF-15KA	15 kg	5 g	Column	VFD (1.)	240 V
SF-30KA	30 kg	10 g	Column	VFD (1.)	240 V
SF-6KB	6 kg	2 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-15KB	15 kg	5 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-30KB	30 kg	10 g	Column	LCD (2.)	AC or NR Battery (3.)
SF-6KC	6 kg	2 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SF-15KC	15 kg	5 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SF-30KC	30 kg	10 g	Column	VFD (1.)	AC or R/NR Battery (4.)
SG-6KA	6 kg	2 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)
SG-15KA	15 kg	5 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)
SG-30KA	30 kg	10 g	Integral	LCD (2.)	AC Adaptor or NR Battery (3.)

Approved Single-interval Models and Configurations

NOTES:
1. VFD - Vacuum fluorescent type display
2. LCD - Liquid crystal type display
3. AC adaptor or non-rechargeable batteries
4. AC adaptor or rechargeable or non-rechargeable batteries

6/4D/291
17 October 2000

TECHNICAL SCHEDULE No 6/4D/291

VARIATION No 1

Pattern: A & D Mercury Model SF-6KA Weighing Instrument.

Submittor: A & D Mercury Pty Ltd
32 Dew Street
Thebarton SA 5031.

1. Description of Variant 2

Other models, configurations and capacities as listed in Table 3.

The CW series instruments do not have price computing functions but have facilities for setting and displaying upper and lower limits and indicating when these limits are exceeded. These functions are not approved for trade use.

The SW series instruments are mass only instruments without the price-computing or upper/lower limit functions.

Instruments may be fitted with a cradle and scoop in which case the normal platter is rendered 'non-live', i.e. it is not involved in the weighing of the load.

TABLE 3

Model Number	Capacities of Ranges	Verification Scale Interval/s	Indicator Mounting	Display Type	Power Supply
CW-6KA	3/6 kg	1/2 g	Column	VFD (#)	240 V
CW-15KA	6/15 kg	2/5 g	Column	VFD (#)	240 V
CW-30KA	15/30 kg	5/10 g	Column	VFD (#)	240 V
SW-6KA	3/6 kg	1/2 g	Column	VFD (#)	240 V
SW-15KA	6/15 kg	2/5 g	Column	VFD (#)	240 V
SW-30KA	15/30 kg	5/10 g	Column	VFD (#)	240 V

(#) VFD - Vacuum fluorescent type display

National Standards Commission

Notification of Change

Certificate of Approval No 6/4D/291

Change No 1

The following changes are made to the approval documentation for the

A & D Mercury Model SF-6KA Weighing Instrument

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

A. In Technical Schedule No 6/4D/291 dated 24 December 1998;

(i) Clause **1.7 Markings** should be amended by removing the reference to marking the Maximum Subtractive Tare.

(ii) Clause **2. Description of Variant 1** should be amended by adding the following as the third paragraph:

"Instruments may be fitted with a cradle and scoop (Figure 3) in which case the normal platter is rendered 'non-live', i.e. it is not involved in the weighing of the load."

B. In Certificate of Approval No 6/4D/291 dated 24 December 1998, the FILING ADVICE should be amended by adding a reference to this Notification of Change and a reference to the Figure attached herein, as follows:

"Notification of Change No 1 dated 29 February 2000
Figure 3 dated 29 February 2000"

Signed and sealed by a person authorised under Regulation 63 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

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6/4D/291
28 July 2004

Australian Government

National Measurement Institute

12 Lyonpark Road, North Ryde NSW 2113

Notification of Change
Certificate of Approval No 6/4D/291
Change No 2

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following change is made to the approval documentation for the

A & D Mercury Model SF-6KA Weighing Instrument

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

In Certificate of Approval No 6/4D/291 dated 17 October 2000, the Condition of Approval referring to the review of the approval should be amended to read:

> "This approval becomes subject to review on 1 November 2008, and then every 5 years thereafter."

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

6/4D/291
3 September 2007

Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Notification of Change
Certificate of Approval No 6/4D/291
Change No 3

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

A & D Mercury Model SF-6KA Weighing Instrument

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

In Technical Schedule No 6/4D/291 dated 24 December 1998;

1. Clause **1. Description of Pattern** should be amended by changing the 2nd paragraph to read, in part:

   "… unit price to **$9999.99**/kg and price to **$99999.99** ..."

2. Clause **1.7 Markings** should be amended by adding the following:

   "Maximum subtractive tare **(if *T* is not equal to *Max*)** *T* = - …. kg"

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

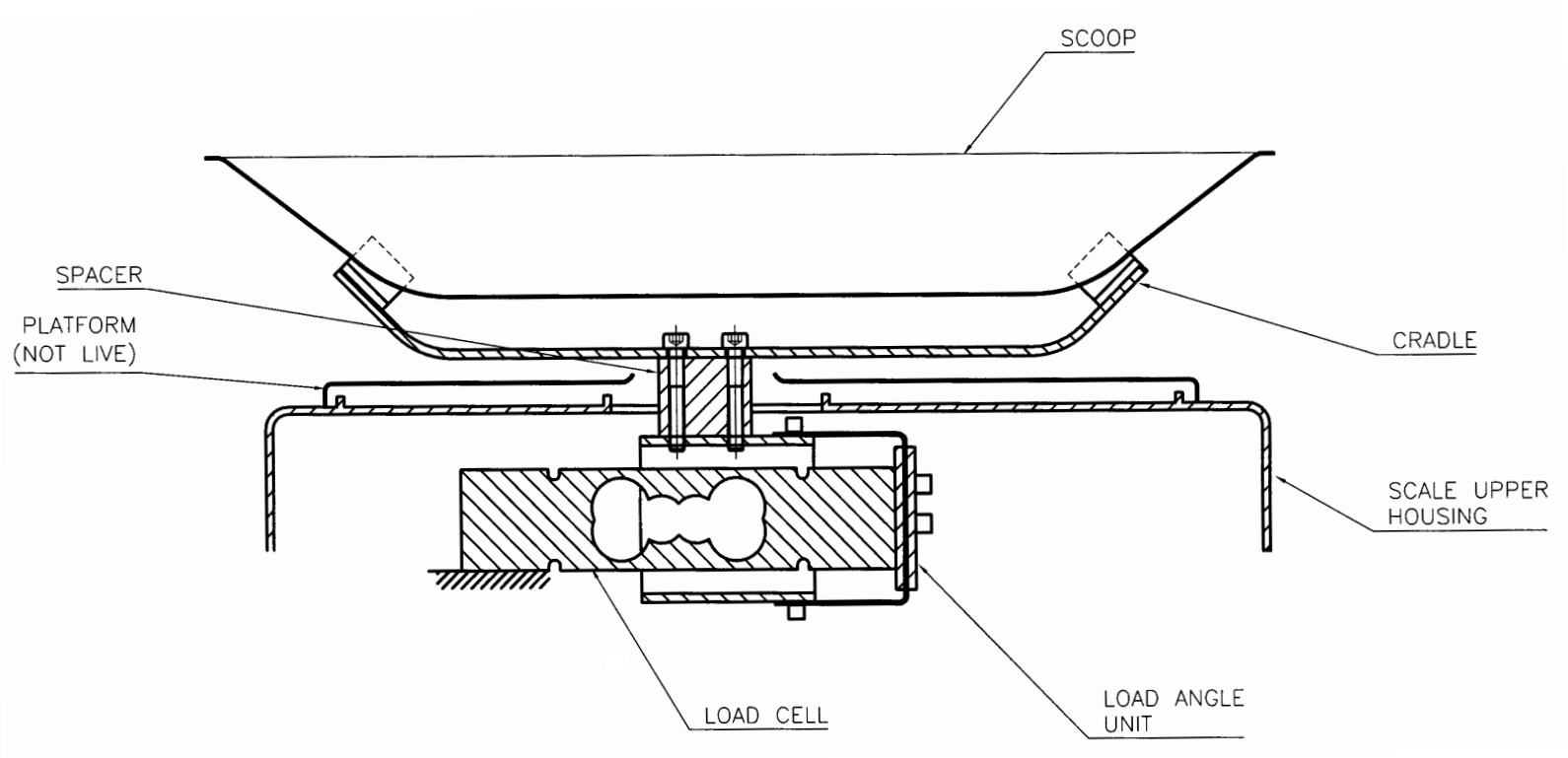
FIGURE 6/4D/291 - 1

A & D Mercury Model SF-6KA Weighing Instrument

FIGURE 6/4D/291 - 2

Typical SF/SG Series Instrument With Integral Display

FIGURE 6/4D/291 - 3



Typical Cradle and Scoop Assembly