



**Australian Government**  
**National Measurement  
Institute**

Bradfield Road, West Lindfield NSW 2070

**Cancellation**  
**Certificate of Approval**  
**No 6/4C/236**

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

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

CAS Model SW-1C Weighing Instrument

submitted by CAS Corporation  
19 Kanap-Ri, Gwangjoek-Myun  
Yangju-Si, Kyunggi-Do  
Republic of Korea

has been cancelled in respect of new instruments as from 1 March 2011.

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

A handwritten signature in black ink, consisting of a series of loops and flourishes, positioned to the right of the signature text.



**Australian Government**  
**National Measurement  
Institute**

12 Lyonpark Road, North Ryde NSW 2113

**Certificate of Approval**  
**No 6/4C/236**

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

CAS Model SW-1C Weighing Instrument

submitted by CAS Corporation  
19 Kanap-Ri, Gwangjoek-Myun  
Yangju-Si, Kyunggi-Do  
Republic of Korea.

**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.

**CONDITIONS OF APPROVAL**

This approval becomes subject to review on 1 August 2010, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/236' 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.

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

#### DESCRIPTIVE ADVICE

**Pattern:** approved 29 July 2005

- A CAS model SW-1C single-interval self-indicating weighing instrument of 2 kg maximum capacity.

**Variants:** approved 29 July 2005

1. Certain other models of the SW-1C series.
2. Certain other models of the SW-1S series.
3. Displaying in gram units.

Technical Schedule No 6/4C/236 describes the pattern and variants 1 to 3.

#### FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 6/4C/236 dated 9 September 2005  
Technical Schedule No 6/4C/236 dated 9 September 2005 (incl. Test  
Procedure)  
Figures 1 and 2 dated 9 September 2005

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

A handwritten signature in black ink, appearing to be 'J. H. T.', located in the bottom right corner of the page.

TECHNICAL SCHEDULE No 6/4C/236

**Pattern:** CAS Model SW-1C Weighing Instrument  
**Submittor:** CAS Corporation  
19 Kanap-Ri, Gwangjoek-Myun  
Yangju-Si, Kyunggi-Do  
Republic of Korea

## 1. Description of Pattern

An CAS model SW-1C single-interval self-indicating weighing instrument (Figure 1) with a maximum capacity of 2 kg and a verification scale interval of 0.001 kg.

Instruments are fitted with one or two integral displays. Instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording) unless two displays are present.

The instrument is powered via 6 internal D size batteries (9 V) or via a mains adaptor.

Note: The AC/DC mains adaptor supplied was a DIPOS model CK-2309300 power supply (output 9 V DC, 300 mA) – the submittor should be consulted regarding the acceptability of alternative power supply units.

The instrument has the load receptor directly supported by a single load cell. The load receptor has maximum nominal dimensions of 235 x 190 mm.

The instrument has an additional function, setting target values and implementing 'under/accept/over' checking - this function is not approved for trade use.

### 1.1 Zero

Zero is automatically corrected to within  $\pm 0.25e$  whenever the instrument comes to rest within  $0.5e$  of zero.

The instrument has a semi-automatic zero-setting device (to set the instrument to within  $\pm 0.25e$  of zero) with a nominal range of not more than 4% of the maximum capacity of the instrument.

The instrument has an initial zero-setting device with a nominal range of not more than 20% of the maximum capacity of the instrument.

### 1.2 Tare

A semi-automatic subtractive tare device of up to maximum capacity may be fitted.

### 1.3 Additional Management Functions

The instrument also has provision for additional management functions such as the setting of target values and limits ('HI OK LO' display), counting, etc. and has buttons and displays associated with these functions.

The additional functions (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 approved for trade use.

NOTE: If an alternative unit (lb/kg) function is fitted it must be inoperative.

#### 1.4 Display Check

A display check is initiated whenever power is applied.

#### 1.5 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice advising that the instrument must be level when in use.

#### 1.6 Markings and Notices

(a) Instruments carry the following markings:

|  |                       |
|--|-----------------------|
| Manufacturer's mark, or name written in full | CAS Corporation       |
| Indication of accuracy class                 | Ⓜ                     |
| Pattern approval mark for the instrument     | NMI 6/4C/236          |
| Maximum capacity                             | <i>Max</i> ..... kg * |
| Minimum capacity                             | <i>Min</i> ..... kg * |
| Verification scale interval                  | <i>e</i> = ..... kg * |
| Serial number of the instrument              | .....                 |

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

(b) In addition, instruments are marked 'NOT FOR TRADING DIRECT WITH THE PUBLIC' (or similar wording) unless two displays are present.

#### 1.7 Sealing Provision

Provision is made for the calibration adjustments to be protected by means of a wire and lead seal through the sealing screw and cover plate on the base of the instrument (Figure 2).

#### 1.8 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

## **2. Description of Variants**

### **2.1 Variant 1**

CAS model SW-1C weighing instruments in certain other capacities as listed below:

- with a maximum capacity of 5 kg and a verification scale interval of 0.002 kg;
- with a maximum capacity of 10 kg and a verification scale interval of 0.005 kg; and
- with a maximum capacity of 20 kg and a verification scale interval of 0.01 kg.

### **2.2 Variant 2**

CAS model SW-1S weighing instruments which are similar to the pattern and variant 1, but are not fitted with the counting function.

### **2.3 Variant 3**

Displaying the capacity in grams instead of kilograms, e.g. the pattern (model SW-1C) with a maximum capacity of 2000 g and a verification scale interval of 1 g.

## **TEST PROCEDURE**

Instruments should be tested in accordance with any relevant tests specified in the Uniform Test Procedures.

### **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:

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

FIGURE 6/4C/236 – 1



CAS Model SW-1C Weighing Instrument

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FIGURE 6/4C/236 – 2



Sealing of SW-1 Series Instruments