Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Certificate of Approval
NMI 6/13/4

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.

CAS Model CASTON-II Weighing Instrument

submitted by CAS Corporation
#262 Geurugogae-ro, Gwangjeok-Myeon
Yangju-Si, Gyeonggi-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.

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 **1/06/22**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 3 approved –certificate issued	14/08/09
1	Pattern & variant 1 to 3 amended (address), **reviewed** & updated – certificate issued	31/05/17

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number ‘NMI 6/13/4’ 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.

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

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

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 6/13/4

1. Description of Pattern approved on 14/08/09

A CAS model CASTON-II class (III) self-indicating non-automatic freely-suspended weighing instrument (Figure 1) with a maximum capacity of 2000 kg and verification scale interval of 1 kg.

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

1.1 Resistant Mechanism

The CAS model CASTON-II instrument uses a CAS model SS-2.5T S-type tension load cell of 2500 kg maximum capacity, having a Classification of C3.

The instrument is suspended from an eye-bolt attached to the top of the load cell, and a hook is attached below the load cell for suspension of the load.

1.2 Indicator

The instrument has an integral indicator with a single 5-digit LED display.

1.3 Zero

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.

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.

1.4 Tare

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

1.5 Display Check

A display check is initiated whenever power is applied.

1.6 Power Supply

The instrument is powered by a rechargeable 6 V DC battery pack.

1.7 Additional Features

The instrument may be provided with a remote control device using either infrared (IR) or ‘Bluetooth’ technology, for remote operation of the instrument functions. Output interfacing capability of the instrument may be provided via such remote control devices.

The instrument may have additional functions which operate via a function key (such as HOLD function) of the indicator or a remote control device (such as HOLD and SUM, CLEAR functions) of the instrument. The additional functions (other than the indications of measured mass, i.e. gross, tare, net, displayed either on the indicator or on an auxiliary or peripheral device), are not approved for trade use.

1.8 Sealing Provision

The instrument calibration parameters can be secured by applying a destructible adhesive label over the hole which provides access to the calibration switch and also by applying destructible adhesive label(s) so as to prevent access within the instrument housing. Sealing locations for the CASTON-II instruments are shown in Figure 2.

1.9 Verification Provision

Provision is made for the application of a verification mark.

1.10 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer's mark, or name written in full	CAS Corporation
Indication of accuracy class	(III)
Maximum capacity	*Max* ..... kg #1
Minimum capacity	*Min* ..... kg #1
Verification scale interval	*e* = ... kg #1
Maximum subtractive tare	*T* = - ..... kg #2
Serial number of the instrument	.....
Pattern approval number for the instrument	NMI 6/13/4

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

#2 This marking is required if *T* is not equal to *Max*.

2. Description of Variant 1 approved on 14/08/09

Certain CAS CASTON-II series instruments which are similar to the pattern but have certain capacities and characteristics, and use load cells as listed in Table 1.

TABLE 1

Model	Max Capacity (kg)	*e* (kg)	Load Cell Model, capacity (E_{max})
CASTON-II	3000	1	SS-3.5T, 3500 kg
CASTON-II	5000	2	SS-6T, 6000 kg

3. Description of Variant 2 approved on 14/08/09

Certain CASTON-III series instruments (Figure 3) which are similar to the pattern, but with a different style instrument housing, and have certain capacities and characteristics, and use load cells as listed in Table 2.

The CASTON-III series instruments are powered by a rechargeable 12 V DC battery pack.

Sealing locations for the CASTON-III series instruments are shown in Figure 4. Note that one sealing location is within the battery compartment of the instrument – this is an area intended for normal user access.

TABLE 2

Model	Max Capacity (kg)	*e* (kg)	Load Cell Model, Capacity (E_{max})
CASTON-III	2000	1	SS-2.5T, 2500 kg
CASTON-III	3000	1	SS-3.5T, 3500 kg
CASTON-III	5000	2	SS-6T, 6000 kg

4. Description of Variant 3 approved on 14/08/09

The pattern or variants with alternative hangers similar to that shown in Figure 5, provided freedom of movement is provided in both horizontal directions (so that the centre of gravity of the item being weighed self-aligns with the load cell centre line, and so torsion forces are not applied to the load cell).

TEST PROCEDURE

Instruments shall be tested in accordance with any relevant tests specified in the National Instrument Test Procedures.

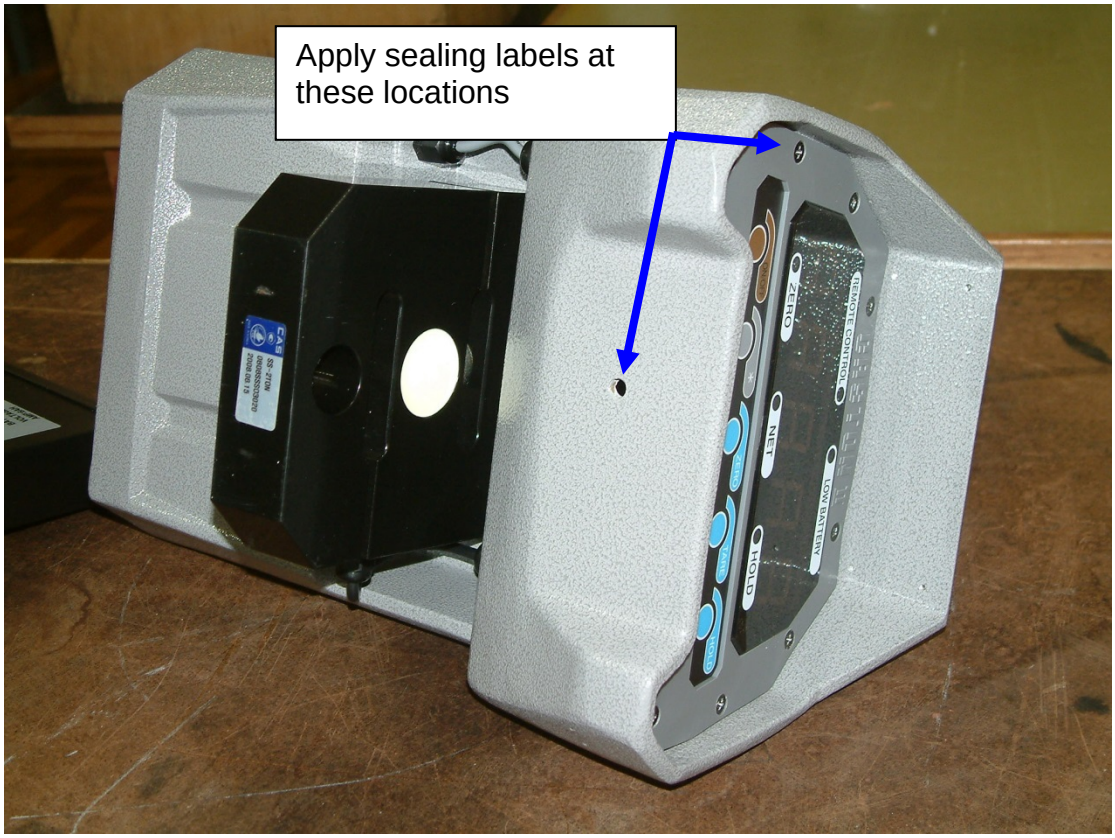
Maximum Permissible Errors

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

FIGURE 6/13/4 – 1

CAS Model CASTON-II Weighing Instrument
(shown from the front)

FIGURE 6/13/4 – 2



Sealing Locations for the CASTON-II Series
(hanger is removed in this photograph)

FIGURE 6/13/4 – 3

Typical CAS CASTON-III Series Weighing Instrument

FIGURE 6/13/4 – 4

(a) Sealing within battery compartment

(b) Sealing of main housing

Sealing Locations for the CASTON-III Series

FIGURE 6/13/4 – 5

Alternative Hanger – Variant 3

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