Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Certificate of Approval
NMI 6/4D/381

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 CT100 PLUS-6P Weighing Instrument

submitted by CAS Corporation
19 Ganap-Ri, Gwangjoek-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 October 2015.

This approval becomes subject to review on 1/01/21, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 5 approved – certificate issued	16/12/15

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/4D/381' 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 Certificate No S1/0B.

Special

Certain aspects of this instrument (in particular transaction record printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

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 6/4D/381

1. Description of Pattern approved on 16/12/15

A CAS model CT100 PLUS-6P class (III) self-indicating price-computing multi-interval non-automatic weighing instrument (Figure 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 are fitted with one column-mounted 14-segment customer display (PLU name, some messages), and 7-segment customer display (weight, unit price, total price, tare), and an integral operator display. An integral ticket/label printer is fitted (#).

Instruments have unit price to $9999.99/kg, price to $9999.99, a PLU facility, and may be fitted with output sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices.

The platter size of the instrument is 320 mm × 240 mm.

The instrument operates from mains AC power (240 V AC, 50/60 Hz) or a12 V DC, 7Ah rechargeable battery.

The software version of the instrument is AUv1xxE (Ethernet), AUv1xxR (RS485). ‘xx’ reflecting non-legally relevant modifications.

(#) Refer to the Special Condition of Approval in the certificate.

1.1 Zero

Zero is automatically corrected to within ±0.25e whenever power is applied and whenever the instrument comes to rest within 0.5e 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 subtractive tare device and/or a non-automatic keyboard-entered pre-set subtractive tare device, each of up to 2.999 kg capacity, may be fitted.

Pre-set tare values may be associated with product look up (PLU) items.

A separate display of pre-set tare value is provided (marked PT). For both pre-set tare and semi-automatic tare, the tare value is displayed as a negative mass value when the load receptor is empty.

1.3 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.

1.4 Display Check

A display check is initiated whenever power is applied.

1.5 Pre-pack Mode

Prepack mode should only works in Clerk mode '5' (label mode), and it should only available for by-weight PLU. In prepack mode, the instrument should not print a label if the weight is below minimum capacity.

1.6 Printing Receipt and/or Label

The printed receipt and/or label should comply with NMI R76-1 and NMI S1/0B requirements, in particularly the format and the height of characters.

1.7 Networking

A number of instruments may be connected in a network to share common PLU data, and to accumulate and retrieve management information.

In addition, the network may be interfaced with a computer for the collection of management data, or the downloading of PLU data.

Note: The weighing and price computing functions of each weighing instrument in the network are independent, and the removal, repair or replacement of a particular weighing instrument does not necessitate re-verification of any other weighing instrument in the network.

1.8 Verification Provision

Provision is made for the application of a verification mark.

1.9 Sealing Provision

Provision is made for access to the 'calibration push button' (as shown in Figure 2) to be sealed. Sealing may be by destructible adhesive label.

1.10 Descriptive Markings

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's mark, or name written in full	CAS Corp Korea
Name or mark of manufacturer's agent	…….
Indication of accuracy class	(III)
Pattern approval number for the instrument	NMI 6/4D/381
Maximum capacity	*Max* ...../..... g or kg #1
Minimum capacity	*Min* ..... g or kg #1
Verification scale interval	*e* = .../..... g or kg #1
Maximum subtractive tare	*T* = - ……. g or kg #2
Serial number of the instrument	…….

#1 These markings are also 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*.

Note: For single interval instruments (see variant 1) there is only one range therefore only one value of maximum capacity and verification scale interval to be marked.

2. Description of Variant 1 approved on 16/12/15

Certain other models of the CT100 series of various capacities and including some single interval instruments as listed in the Table 1 below. The metrological characteristics in **bold** type are for the pattern. The instrument model numbers are 'CT100' followed by various suffixes (*), e.g. the pattern is model CT100 PLUS-6P.

TABLE 1

Model number suffix (*)	**PLUS-6P**		PLUS-15P		PLUS-30P	
Max. capacity (kg)	**3/6**	6	6/15	15	15/30	30
Min. capacity (g)	**20**	40	40	100	100	200
Verification interval, e (g)	**1/2**	2	2/5	5	5/10	10
Tare ≤ (kg)	**-2.999**	-2.998	-5.998	-5.995	-9.995	-9.990
E_{max} (kg)	**6**	6	15	15	30	30

3. Description of Variant 2 approved on 16/12/15

CAS model CT100 PLUS-B (Figure 3) having similar metrological characteristics and functions as the pattern and variant 1, but the customer is not mounted on a column but is mounted next to the base of the instrument.

4. Description of Variant 3 approved on 16/12/15

CAS model CT100-B (Figure 4) having similar metrological characteristics and functions as the pattern and variant 2, but without the integral ticket/label printer function.

5. Description of Variant 4 approved on 16/12/15

CAS model CT100-P (Figure 5) having similar metrological characteristics and functions as the pattern and variant 1, but without the integral ticket/label printer.

6. Description of Variant 5 approved on 16/12/15

CAS model CT100-R (Figure 6) having similar metrological characteristics and functions as the pattern and variant 1, but without the integral ticket/label printer function and having a different customer display.

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

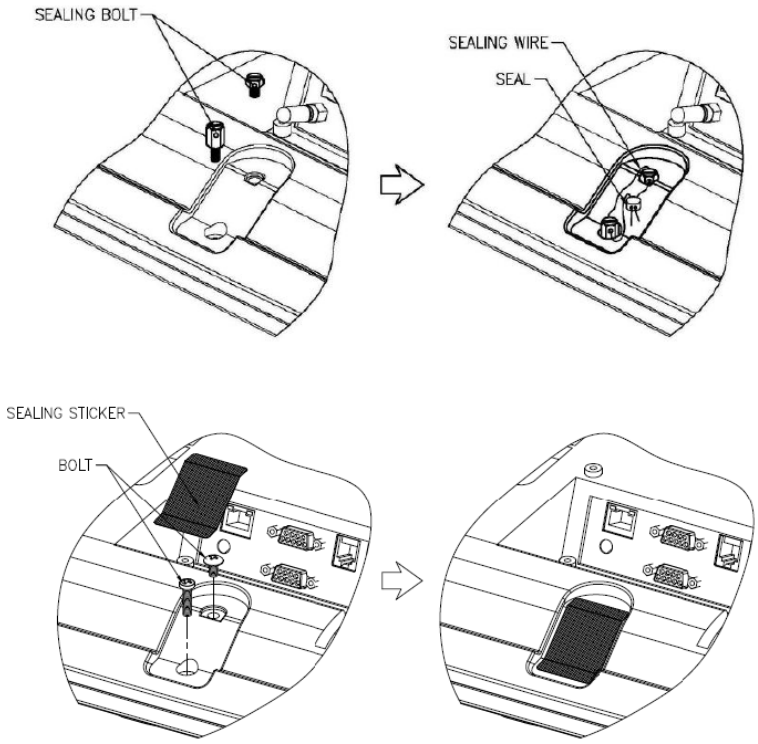
The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

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

FIGURE 6/4D/381 – 1

CAS Model CT100 PLUS-6P Weighing Instrument (Pattern)

FIGURE 6/4D/381 – 2



Typical Mechanical Sealing

FIGURE 6/4D/381 – 3

CAS Model CT100 PLUS-B Weighing Instrument (Variant 2)

FIGURE 6/4D/381 – 4

CAS Model CT100-B Weighing Instrument (Variant 3)

FIGURE 6/4D/381 – 5

CAS Model CT100-P Weighing Instrument (Variant 4)

FIGURE 6/4D/381 – 6

CAS Model CT100-R Weighing Instrument (Variant 5)

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