



# NATIONAL STANDARDS COMMISSION

## WEIGHTS AND MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### CERTIFICATE OF APPROVAL No 6/4D/208

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Sumitomo Ishida Libra-150 Price-computing Weighing Instrument

submitted by Sumitomo Australia Limited  
8-18 Bent Street  
Sydney, New South Wales, 2000

are suitable for use for trade.

The approval is subject to review on or after 30/10/86.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/208.

Relevant drawings and specifications are lodged with the Commission.

Signed

*Raymond Jacobs*  
Acting Executive Director

Descriptive Advice

Pattern: approved 30/10/81

- Sumitomo Ishida Libra-150 price-computing weighing instrument of 15 kg capacity by 0.005 kg scale intervals, with price-computing in 1c increments to a maximum of \$99.99/kg and price to a maximum of \$999.99

Technical Schedule No 6/4D/208 dated 30/11/81 describes the pattern.

Variant: approved 17/8/82

1. With the customer/vendor indicator separate from the weighing unit.

Technical Schedule No 6/4D/208 Variation No 1 dated 3/9/82 describes variant 1.

Variant: approved 22/4/83

2. With a remote keyboard in which case the existing keyboard is disabled.

Technical Schedule No 6/4D/208 Variation No 2 dated 16/5/83 describes variant 2.

#### Filing Advice

Certificate of Approval No 6/4D/208 dated 3/9/82 is superseded by this Certificate, and may be destroyed. The documentation for this approval now comprises:

Certificate of Approval No 6/4D/208 dated 16/5/83  
Technical Schedule No 6/4D/208 dated 30/11/81 (including Table 1)  
Technical Schedule No 6/4D/208 Variation No 1 dated 3/9/82  
Technical Schedule No 6/4D/208 Variation No 2 dated 16/5/83  
Test Procedure No 6/4D/208 dated 30/11/81  
Figures 1 to 4 dated 30/11/81.

16/5/83



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 6/4D/208

Pattern: Sumitomo Ishida Libra-150 Price-Computing Weighing Instrument

Submittor: Sumitomo Australia Ltd,  
8-18 Bent Street,  
Sydney, New South Wales, 2000.

### 1. Description of Pattern

#### 1.1 General

The pattern is a self-indicating price-computing weighing instrument of 15 kg capacity (Figure 1 and 2).

#### Range:

Maximum capacity	15 kg
Scale interval	0.005 kg
Unit price	\$99.99/kg in 1c increments
Price	\$999.99 in 1c increments.

#### 1.2 Zero

Zero is automatically corrected to within 0.25e whenever the instrument comes to rest within 0.5e of zero. If the instrument comes to rest outside that range but within the zero reset range, zero may be reset by pressing the button marked Z.

#### 1.3 Display Check

When power is applied to the instrument the decimal markers illuminate. Several seconds later all zeros and the zero pointer illuminate.

All 8's are indicated when the button marked SC (segment check) is pressed.

#### 1.4 Levelling

A level indicator and four adjustable feet are provided. A notice which surrounds the level indicator aperture advises that the instrument must be level when in use.

#### 1.5 Marking

The nameplate is marked with the following data:

Manufacturer's name	
Serial number	
NSC approval number	NSC No 6/4D/208
Accuracy class in the form:	(III)
Maximum capacity in the form:	Max 15 kg*
Minimum capacity in the form:	Min 0.1 kg*
Scale Interval in the form:	$d_d = e = 0.005 \text{ kg}^*$

#### 1.6 Sealing

(a) A sealing plug is situated on one corner of the load receptor cabinet under the platter and a stamping plug in the diagonally opposite corner (Figures 3 and 4).

or

(b) Similar method.

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\* These markings are repeated in the vicinity of each reading face.

TABLE 1

<u>Indicated Mass</u>	<u>Unit Price</u>	<u>Price</u>
kg	\$/kg	\$
0.000	0.00	0.00
0.100	99.99	10.00
0.105	98.98	10.39
0.110	97.97	10.78
0.120	96.95	11.63
0.130	95.95	12.47
0.140	94.94	13.29
0.150	83.84	12.58
0.160	72.73	11.64
0.170	61.61	10.47
0.180	50.51	9.09
0.190	49.49	9.40
0.200	39.39	7.88
0.300	29.29	8.79
0.400	19.29	7.72
0.500	9.00	4.50
0.600	55.16	33.10
0.700	39.02	27.31
0.800	58.99	47.19
0.900	70.99	63.89
1.000	75.99	75.99
2.000	80.99	161.98
3.000	85.39	256.17
4.000	96.99	387.96
5.000	97.99	489.95
6.000	98.99	593.94
7.000	99.99	699.93
8.000	99.99	799.92
9.000	99.99	899.91
10.000	99.99	999.90
11.000	50.00	550.00
12.000	50.00	600.00
13.000	50.00	650.00
14.000	50.00	700.00
15.000	50.00	750.00

Test Procedure - 15 kg Instrument with Unit Price to \$99.99/kg and  
 Total Price to \$999.99

TEST PROCEDURE No 6/4D/208

1. Accuracy Requirements

The maximum permissible errors are:

- ± 0.5e for loads between 0 and 500e inclusive;
- ± 1e for loads between 501e and 2000e; and
- ± 1.5e for loads above 2000e.

2. Zero Test

2.1

The automatic zero-tracking device resets zero to within 0.25e whenever the weighing mechanism comes to rest within 0.5e of zero.

Check tracking with multiple loads of less than 0.5e each. When applied one at a time, zero should not alter.

2.2

Zero is checked as described in the Commission's Test Procedure for the Elimination of Rounding Error for Weighing Instruments with Digital Indication (Document 104).

3. Zero Range

The maximum range of operation of the press-button zero should not exceed 4% of the maximum capacity of the instrument (i.e. ± 2% approximately). Satisfactory setting may be checked by the following method:

- (a) With zero balance indicated, apply a load of, say, 2.5% of maximum capacity of the instrument. Press the button marked Z. Zero balance should not be indicated.
- (b) Reduce the load to, say, 1.5% of the maximum capacity and press the zero button again. Zero balance should be indicated.

4. Level Sensitivity

The automatic zero tracking device may prevent the zero from changing when the instrument is tilted at zero load. The effect of tilt should be checked initially with a small load of, say, 10e on the load receptor.

When the instrument is tilted so that the bubble in the level indicator moves 2 mm, the indication should not change by more than 2e and when, in the tilted position, the 10e load is removed and zero is allowed to automatically reset, or it is manually reset, the instrument should satisfy the accuracy requirements given above.

5. Price-Computing Accuracy

The indications of mass, unit price and price, as listed in Table 1 will indicate that the price-computing and mass circuits are functioning correctly. The exact figures should be indicated as rounding is effected within the computer.

Note: This test does not establish correct mass indications. A separate test, in accordance with the Commission's recommended test procedure in Document 104, is necessary and may be carried out in conjunction with this test (see also Test No. 7).

6. Range of Indication

- (a) The maximum mass indicated should not exceed the marked maximum capacity (Max) by more than 10 scale intervals. Above this, the indication should be blank.
- (b) The minimum mass indicated should be zero. Below zero, the indication should be blank.

7. Load Test

Test loads are to be applied to the instrument increasing to the maximum capacity in not less than 5 approximately equal steps, then decreasing the load in not less than 5 approximately equal steps to zero.

Note: All load applications to the instrument should be in accordance with the Commission's recommended test procedure for the elimination of round-off errors as set out in Document 104.

The instrument should indicate these loads within the applicable tolerances as listed above.



# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/208

VARIATION No 1

Pattern: Sumitomo Ishida Libra-150 Price-Computing Weighing Instrument

Submittor: Sumitomo Australia Ltd,  
8-18 Bent Street,  
Sydney, New South Wales, 2000.

1. Description of Variant 1

With the customer/vendor indicator separate to the weighing unit, and the inter-connecting cable permanently connected within the weighing unit.



# NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/208

VARIATION No 2

Pattern: Submitomo Ishida Libra-150 Price-computing Weighing Instrument

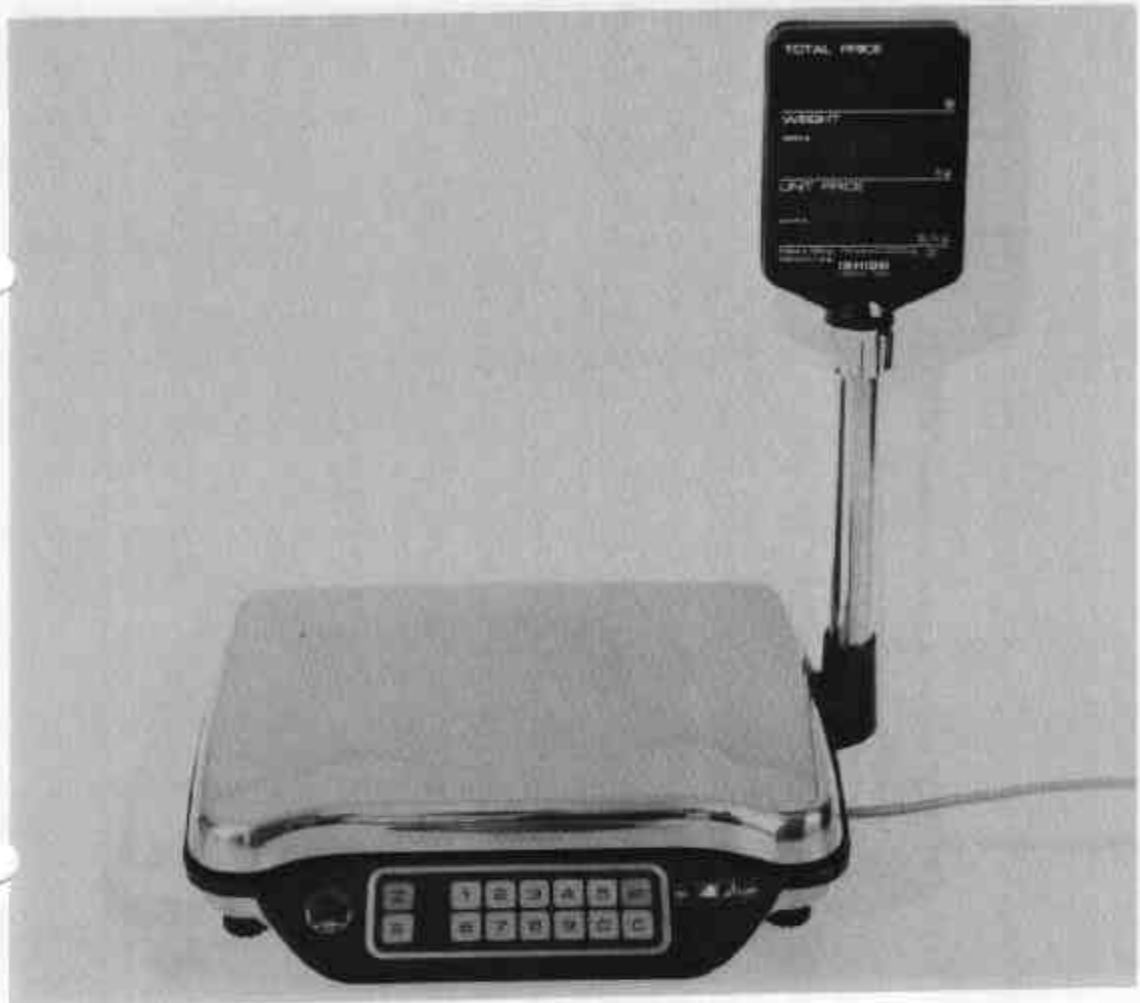
Submittor: Submitomo Australia Ltd  
8-18 Bent Street  
Sydney, New South Wales, 2000.

1. Description of Variant 2

With a remote keyboard attached, in which case the existing keyboard on the instrument is disabled.

16/5/83

FIGURE 6/40/208 - 1



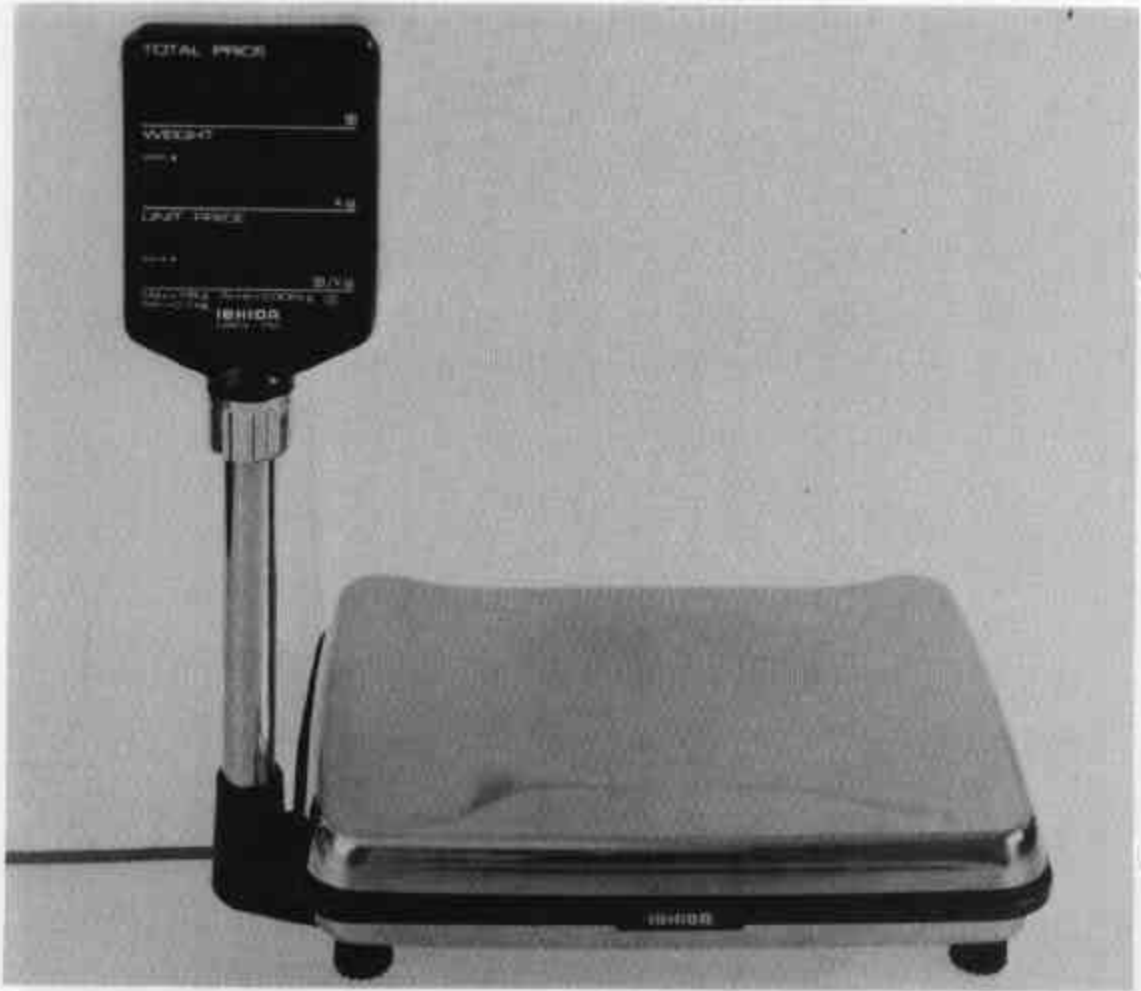
Ishide Libra-150 - Vendor's Side

30/11/81

12/11/81



FIGURE 6/4D/208 - 2



Libro-150 - Purchaser's Side

30/11/81

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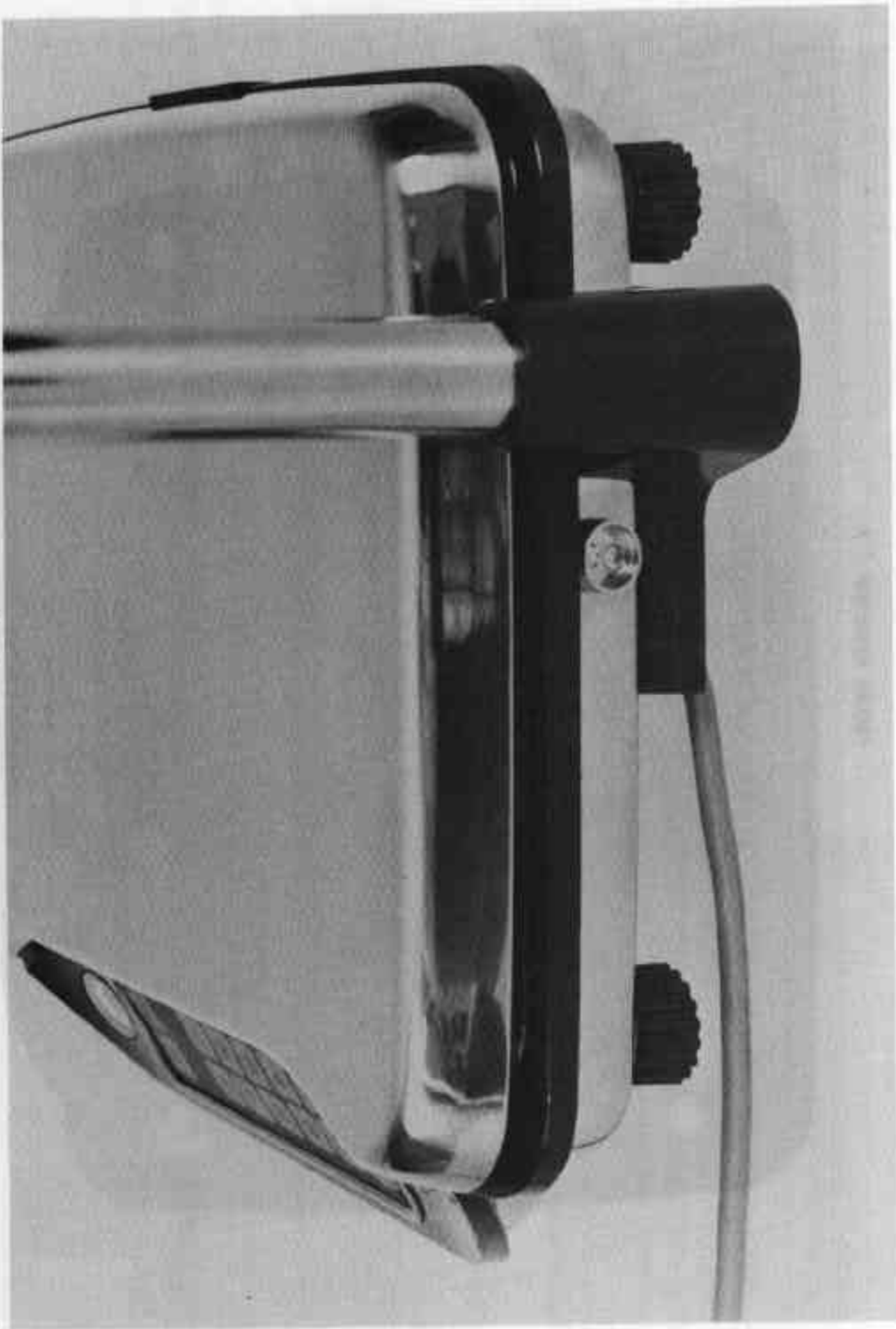
FIGURE 6/40/208 - 3



Libra-150 with Top Cover Removed to show Sealing

LIBRA-150 - 4117-208 - 208 - 4

FIGURE 6/10/208 - 4



Libra-150 Showing Stamping Plug