



# NATIONAL STANDARDS COMMISSION

## WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### CERTIFICATE OF APPROVAL No 6/10B/44A

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

Ultra-Hawke Model 9630 Weighing Instrument

submitted by Ultra Scales Pty Ltd  
33-35 Judge Street  
Sunshine, Victoria, 3020

is suitable for use for trade.

In this Certificate the pattern and variants originally approved in Certificate No 6/10B/44 have been reviewed. Certificate No 6/10B/44 will expire on 30/1/84 with the effect that no new instruments purporting to comply with that Certificate will be accepted for verification after that date.

The approval is subject to review on or after 31/1/89.

Instruments purporting to comply with this approval shall be marked NSC No 6/10B/44A.

The approval may be withdrawn if instruments are used other than as described in the drawings and specifications lodged with the Commission.

#### Conditions of Approval

1. The number of scale intervals applicable to the whole instrument shall be no greater than the number of verification scale intervals approved for the basework, or the load cell(s) or the headwork, whichever is the smallest.
2. The load cells to be used shall be subject to regular certification by the Commission.
3. The weighbridge installed as approved herein or with substitute load cells and/or indicator shall comply with General Certificate No 6/10B/0 for full load cell weighbridges.

Signed

Executive Director

#### Descriptive Advice

Pattern: approved 23/12/83

- An Ultra-Hawke model 9630 self-indicating weighbridge in various capacities and sizes, using Molenschot model CPS-M-25 load cells of 25 t capacity and an Ultra series 85 digital indicator, and approved for use with up to 3000 scale intervals.

Technical Schedule No 6/10B/44A dated 30/1/84 describes the pattern.

30/1/84

...../2

Filing Advice

The documentation for this approval comprises:

Certificate of Approval No 6/10B/44A dated 30/1/84  
Technical Schedule No 6/10B/44A dated 30/1/84  
Test Procedure No 6/10B/44A dated 30/1/84  
Figures 1 to 3 dated 30/1/84

30/1/84



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 6/108/44A

Pattern: Ultra-Hawke Model 9630 Weighing Instrument

Submitter: Ultra Scales Pty Ltd  
33-35 Judge Street  
Sunshine, Victoria, 3020.

### 1. Description of Pattern

A self-indicating weighbridge in various capacities and sizes. The weighbridge consists of a basework using Molenschot model CSP-M-25-A load cells of 25 t capacity (Figures 1 and 2) and an Ultra series 85 digital indicator (Figure 3). The dead load of the deck is 1.8 t/m for concrete and 0.6 t/m for steel construction.

#### 1.1 Load Cells

##### 1.1.1 Specifications

Type:	Molenschot CSP-M-25A (separately approved under NSC No S133)
Maximum capacity	25 t
Maximum number of verification scale intervals	3000
Minimum dead load	0.53 t
Minimum value of verification scale interval	1.1 kg
Input impedance (nominal)	450 $\Omega$
Supply voltage (AC or DC)	10 to 25 V
Output rating (nominal)	2 mV/V
Cable length ( $\pm 0.1$ m)	20 m
Number of leads	4*

\*There is also a shield cable.

##### 1.1.2 Load Cell Marking

The following is the minimum data required to be marked on the load cell:

Manufacturer's name or mark  
Model number  
Serial number  
Maximum capacity  
Approval number

#### 1.2 Indicator

Ultra series 85 digital indicator displaying up to 3000 scale intervals, with or without an output socket for the connection of peripheral or auxiliary equipment, and with functions as described in the documentation of Approval No S151.

1.3 Markings

The instrument is marked with the following data, in one clearly visible location:

Manufacturer's name or mark	
Model number of instrument	
Serial number of instrument	
NSC approval number	NSC No 6/10B/44A
Accuracy class	Ⓜ
Maximum capacity in the form:	Max .....
Minimum capacity in the form:	Min .....
Verification scale interval in the form:	e = d = .....
Maximum subtractive tare in the form:	T = - .....
Load cell NSC approval number)	
Headwork NSC approval number ) where appropriate	
Basework NSC approval number )	

Load cell serial numbers may be marked on a nameplate attached to the indicator or marked on metal tags attached to the indicator via a lead and wire seal.

## TEST PROCEDURE 6/10B/44A

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

- ± 0.5e for loads between 0 and 500e;
- ± 1.0e for loads between 501e and 2000e; and
- ± 1.5e for loads above 2000e.

### 1. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity ( $\pm 2\%$  approximately). With zero balance indicated, apply a load of, say, 2.5% of maximum capacity to the instrument, and attempt to set zero; this should not be possible.

### 2. Zero Balance

Check by means of the Commission's digital zero test as set out in Document 104 that, when the zero light is illuminated, zero is set within 0.25 scale intervals.

### 3. Range of Indication

The maximum mass indicated should not exceed by more than 10 scale intervals the maximum capacity (Max); above this indicated mass the indicator should be blank or show non-numerical characters.

### 4. Test Loads

Test loads are to be applied to the instrument in not less than 5 approximately equal steps increasing to maximum capacity, followed by decreasing loads of not less than 5 approximately equal steps.

The instrument should display these loads within the applicable tolerance as listed above.

### 5. Tare

Attempt to tare a mass above maximum capacity as determined in Test 3 above - this should not be possible.

### 6. Stability Test

Using the heaviest and most concentrated rolling load intended to be weighed (heaviest axle loading) conduct a stability test on one end of the weighbridge platform beyond the end cells; lifting of the opposite end should not be apparent.

Repeat this test at the other end of the weighbridge.



# NATIONAL STANDARDS COMMISSION

## NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/10B/44A

CHANGE No 1

The following change is made to the approval documentation of the  
Ultra-Hawke Model 9630 Weighing Instrument

submitted by Ultra Scales Pty Ltd  
33-35 Judge Street  
Sunshine Vic 3020.

In Test Procedure No 6/10B/44A dated 30/1/84,  
paragraph 6. Stability Test should be deleted.

Signed

Executive Director



NATIONAL STANDARDS COMMISSION

G.H.  
6/10B/44A  
29/6/87

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/10B/44A

CHANGE No 2

The following change is made to the approval documentation for the  
Ultra-Hawke Model 9630 Weighing Instrument

submitted by Ultra Scales Pty Ltd  
33-35 Judge Street  
Sunshine Victoria 3020.

1. In Technical Schedule No 6/10B/44A dated 30/1/84:

Delete the 3rd sentence from clause 1. Description of Pattern to remove  
any reference to the deadload of the deck.

Signed

Executive Director

FIGURE 6/10B/44A - 1

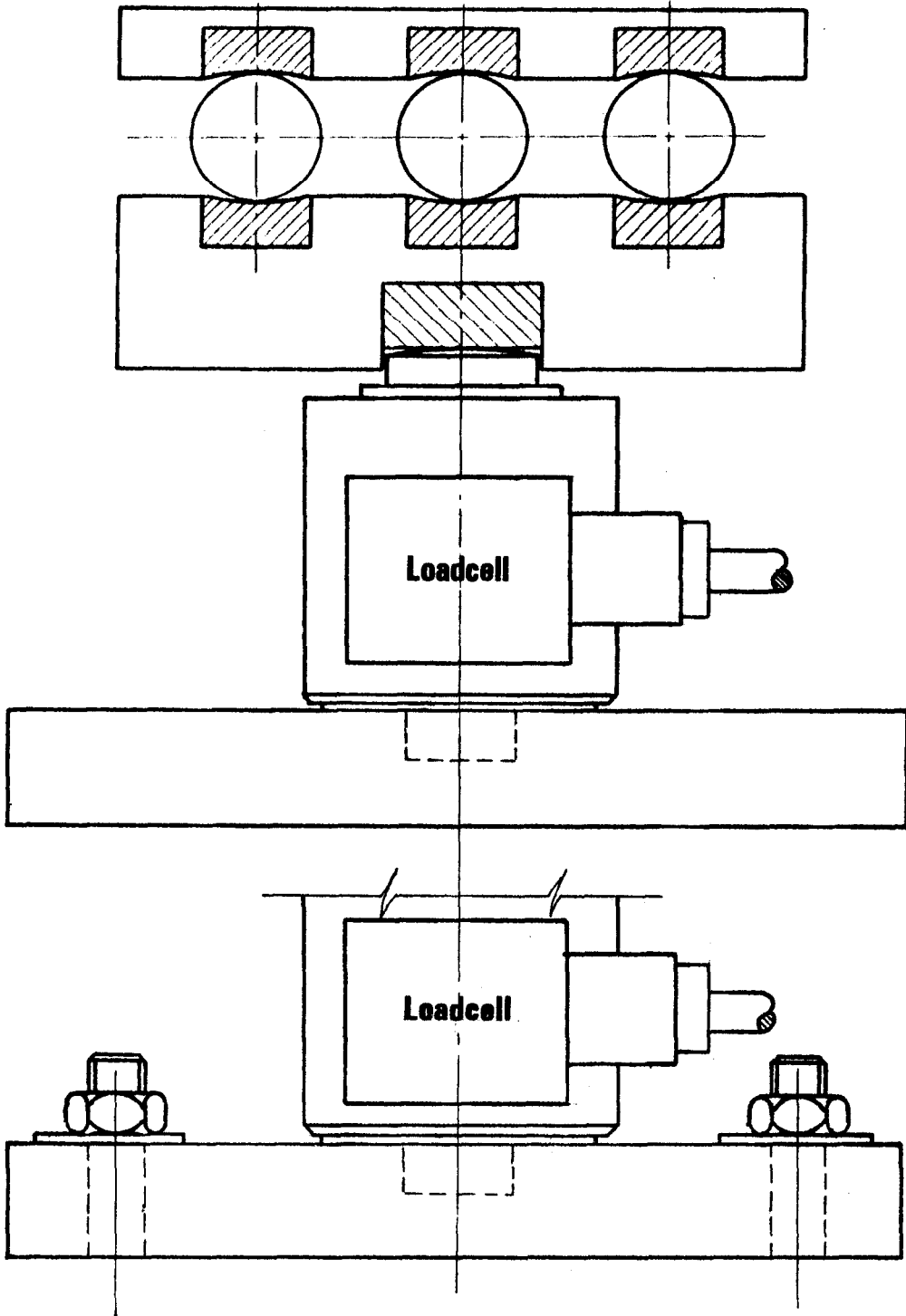


Molenschot Model CSP-M-25-A Load Cell

30/1/84



FIGURE 6/10B/44A - 2



Alternate Methods Of Mounting

FIGURE 6/108/44A - 3



Ultra Series 85 Indicator