



# NATIONAL STANDARDS COMMISSION

## WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

### REGULATION 9

#### CERTIFICATE OF APPROVAL No 6/9C/74

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

Ultra Weighing Instrument Model Minipond II/H70-4000

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

are suitable for use for trade.

The approval of the pattern and variants is subject to review on or after 31/5/86.

All instruments purporting to comply with this approval shall be marked NSC No 6/9C/74.

Relevant drawings and specifications are lodged with the Commission.

#### Condition of Approval

The load cells used shall be subject to regular certification by the National Standards Commission.

Signed

Executive Director

#### Descriptive Advice

Pattern: approved 11/5/81

Platform weighing instrument of capacity 50 kg by 0.02 kg consisting of a 50 kg HBM Z6H3 load cell in an H70-400 baseworks, and a Minipond II indicator. The instrument is approved for up to 3000 increments.

Variant: approved 11/5/81

1. With the Minipond II indicator in an alternate housing.

Technical Schedule No 6/9C/74 dated 5/6/81 describes the pattern and variant 1.



# NATIONAL STANDARDS COMMISSION

## TECHNICAL SCHEDULE No 6/9C/74

Pattern: Ultra Weighing Instrument Model Minipond II/H70-4000

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

### 1. Description of Pattern

The pattern is a platform weighing instrument of capacity 50 kg by 0.02 kg consisting of an H70-4000 baseworks containing a 50 kg HBM Z6H3 load cell, and a Minipond II indicator (Figures 1, 2 and 3).

The basework (Figures 1 and 2) is fitted with four adjustable legs and a level indicator adjacent to which is a notice advising that the instrument must be level when in use.

The indicator converts the output from the load cell into a digital mass indication of up to 3000 increments, which is displayed on nixie tube indicators. Zero balance is set by a knob on the front of the indicator, and is indicated by the word ZERO being illuminated when zero is set within 0.25e. The serial number of the load cell on the basework is sealed to the indicator (Figures 4 and 5).

### 1.2 Marking

The nameplate is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	NSC No 6/9C/74
Accuracy class in the form:	III
Maximum capacity in the form:	Max .....*
Minimum capacity in the form:	Min .....*
Verification scale interval in the form:	$d_d = e = \dots*$

### 1.3 Sealing

The indicator is retained in its cabinet by a lead and wire seal passing through the drilled heads of two set screws. The serial number of the load cell is sealed to the indicator by a lead and wire seal (Figure 4). The output socket, if not used, must be sealed (Figure 5).

## 2. Description of Variant

### 2.1

The Minipond II indicator in various housings to suit the installation. A lead and wire seal passes through the drilled heads of two set screws to seal the indicator into the housing (Figure 6). The sealing of the output socket and the load cell serial number are as in the pattern.

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

TEST PROCEDURE No 6/9C/74

1. Accuracy Requirements

The maximum permissible errors are:

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

2. Zero balance

Check by means of the Commission's digital zero test (Design Manual No 1, Document 104, Testing Procedure for the Elimination of Rounding Error for Weighing Instruments with Digital Indication) that, when the zero light is illuminated, zero is set within 0.25 of zero.

3. Zero range

The maximum range of operation of the zero device should not exceed 4% of the capacity of the instrument (± 2% approximately).

4. Range of indication

- (a) The maximum mass indicated should not exceed the maximum capacity (Max); above this indicated mass the indicator should blank.
- (b) The minimum mass indicated should be zero; below this indicated mass the indicator should blank.

5. Load tests

Test loads are to be applied to the instrument up to maximum capacity with the first load equal to the minimum capacity, then in not less than 5 approximately equal steps to maximum capacity followed by decreasing loads in not less than 5 approximately equal steps to zero load.

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

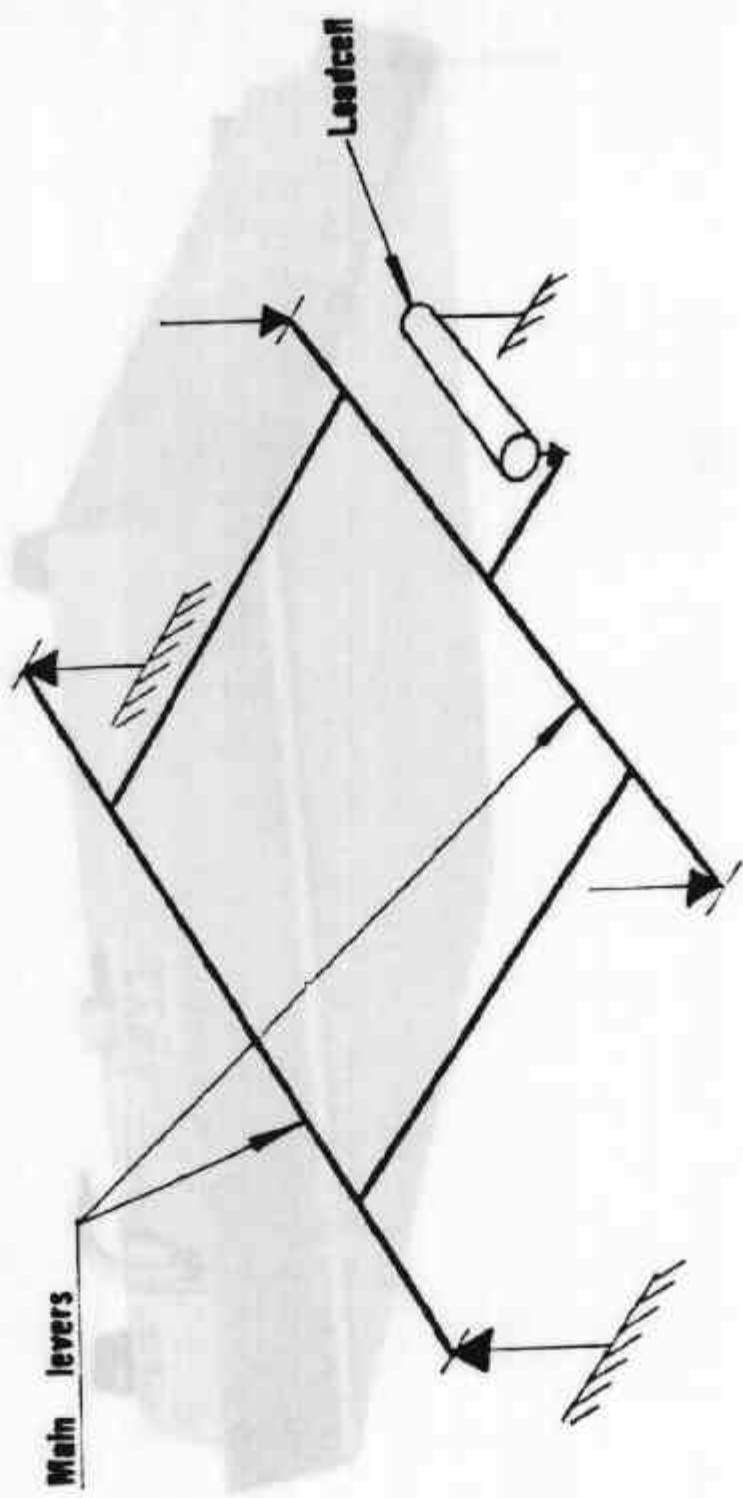
The instrument should display these loads within the applicable tolerance.

FIGURE 6/9C/74 - 1



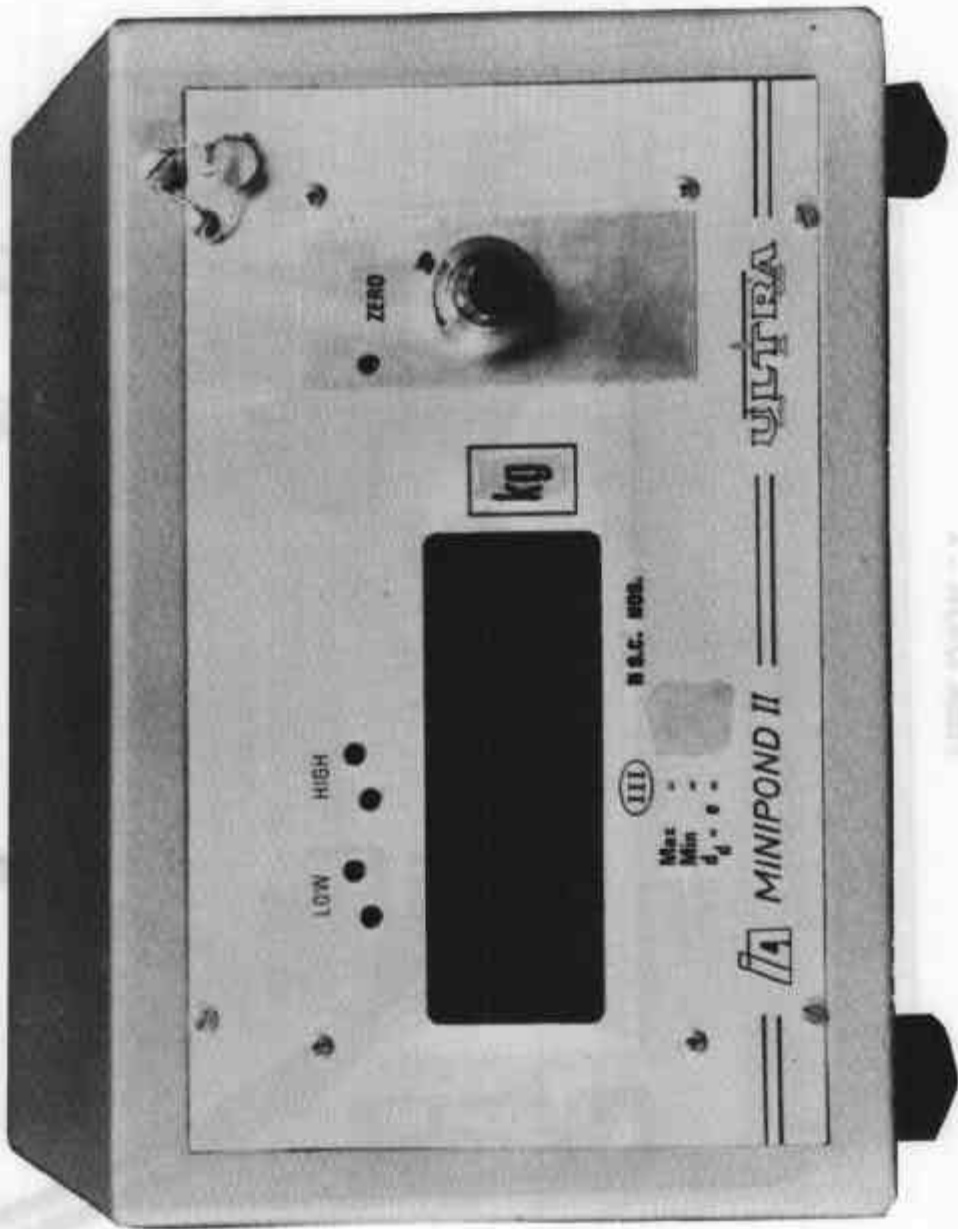
H70-4000 Basework

FIGURE 6/9C/74 - 2



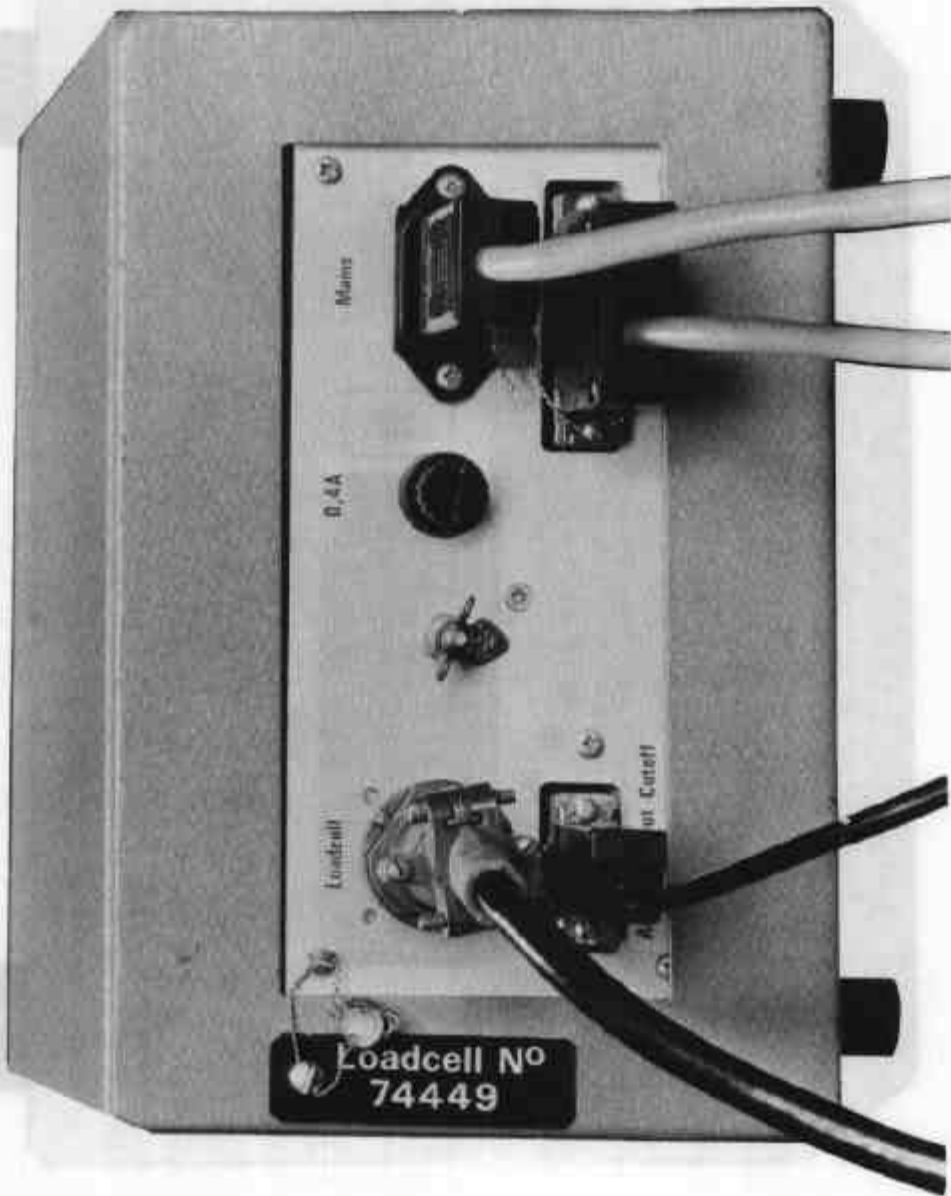
H70-4000 Basework - Schematic Diagram

FIGURE 6/9C/74 - 3



Minipond II Indicator

FIGURE 6/9C/74 - 4



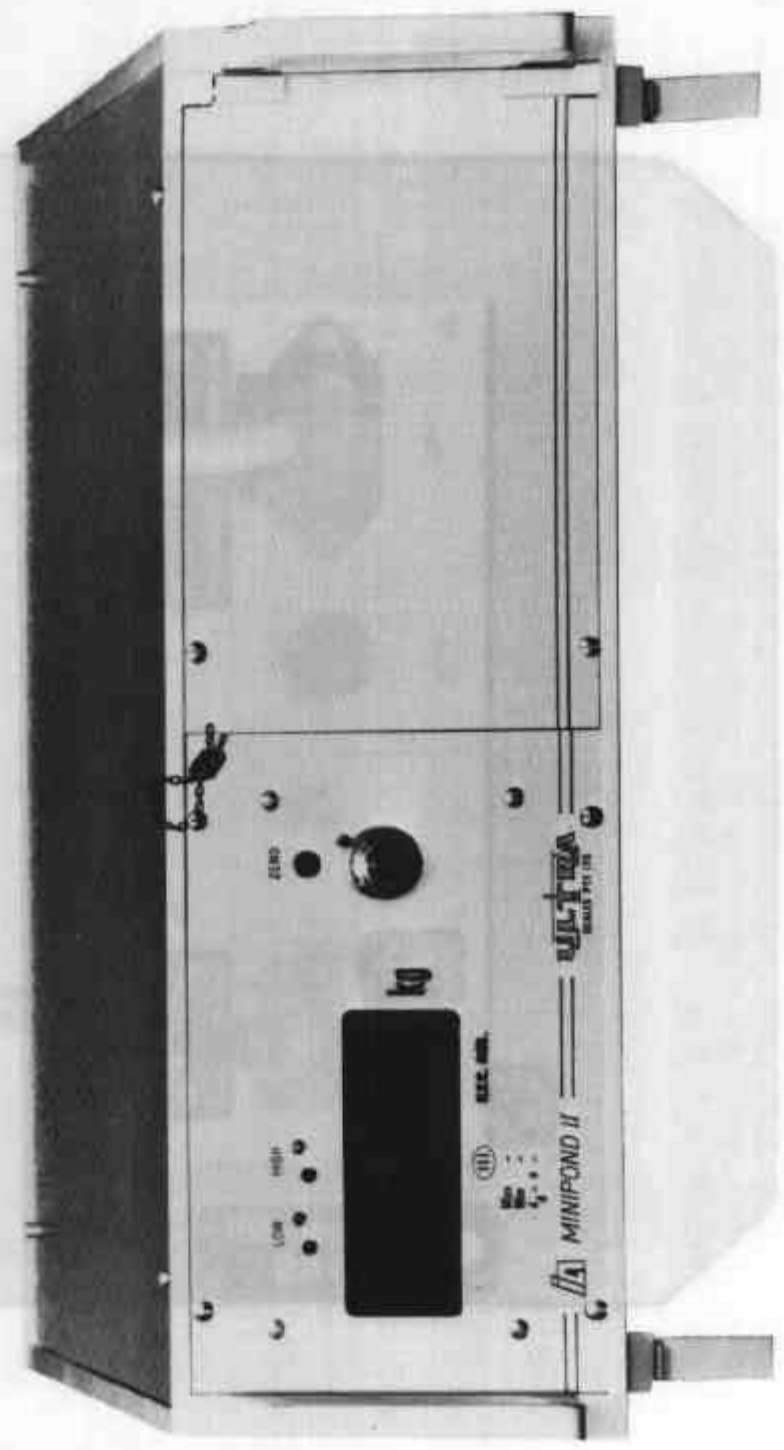
Sealing of Load Cell Serial Number and Output Plugs to Output Sockets  
(Note: A single seal may be used to seal the three seal points)





Model 2 scale may not be used to read low order weights (weights) indicated by pink CRT display against the white background.

FIGURE 6/9C/74 - 6



MINIPOND II in alternate housing

5/6/81

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