



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/4C/271

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.

@Weigh Model NHB 1500 Weighing Instrument

submitted by @Weigh Pty Ltd
Unit 31, 102 Keys Road
Moorabbin VIC 3185.

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 1/12/16, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 3 approved – certificate issued	3/11/11

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 6/4C/271' and only by persons authorised by the submitter.

It is the submitter'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.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the bottom.

TECHNICAL SCHEDULE No 6/4C/271

1. Description of Pattern

approved on 3/11/11

The @Weigh model NHB 1500 self-indicating single interval non-automatic weighing instrument of high accuracy class II of 1500 g maximum capacity with a verification scale interval of 0.2 g (Figure 1a and Table 1).

Instruments have a liquid crystal display (LCD) and are fitted with an HBM model SPL single point type load cell with a maximum capacity of 1500 g.

Instruments may have a circular or a 180 × 190 mm rectangular platter (Figure 1).

Instruments have an auxiliary indicating device (a differentiated scale division (digit) which is shown in a corner bracket (Figure 1) in the display) with a value as shown in the 'actual scale interval (*d*)' column of Table 1.

Instruments may be provided with a windshield; one version is shown in Figure 2.

Instruments are approved for use over a temperature range of +5°C to +40°C, and are so marked.

Instruments are not for trading direct with the public, and are so marked.

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

1.1 Zero

The instrument has an initial zero-setting device with 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.

A zero-tracking device may also operate to automatically correct to within $\pm 0.25e$ whenever the instrument comes to rest with the display indicating zero.

1.2 Tare

A semi-automatic subtractive tare device of up to 1499.8 g may be fitted.

1.3 Alternative Units

Use of units other than grams (g) are not approved for trade use.

1.4 Management Functions

Instruments may be fitted with a number of additional functions including statistical calculation, percentage ('%') and counting ('pcs'). These functions and displays are not approved for trade use.

1.5 Display Check

A display check is initiated when the instrument is switched on.

1.6 Power Supply

The power supply is by

- (a) 12 V DC supplied by an AC/DC mains adaptor; and/or
- (b) an internal rechargeable 12 V battery.

Note: The AC/DC mains adaptor supplied was a Yunsheng Electronics model YS01-120050A (output 12 V DC, 0.5A) – the submitter should be consulted regarding the acceptability of alternative power supply units.

1.7 Levelling

Instruments are provided with adjustable feet and adjacent to the level indicator is a notice stating 'Instrument must be level when in use', or similar wording.

1.8 Descriptive Markings and Notices

The instrument model number is shown on the instrument nameplate.

Instruments carry the following markings:

Manufacturer's mark, or name written in full	@Weigh Pty Ltd
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/4C/271
Maximum capacity	<i>Max</i> g *
Minimum capacity	<i>Min</i> g *
Verification scale interval	<i>e</i> = g *
Actual scale interval	<i>d</i> = g *
Tare capacity (if less than <i>Max</i>)	<i>T</i> = - g
Serial number of the instrument
Special temperature limits	+5°C to +40°C

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

Instruments are not for trading direct with the public, and are so marked.

1.9 Verification Provision

Provision is made for the application of a verification mark.

1.10 Sealing Provision

Sealing of the calibration adjustment is provided by preventing access to the calibration switch underneath the instrument. This may be achieved by use of a disc (cover) and destructible adhesive label as shown in Figure 3a.

A destructible adhesive label should also be placed over at least one of the screws which join the housing halves as shown in Figure 3a.

2. Description of Variant 1 **approved on 3/11/11**

Other models of the @Weigh NHB series in certain capacities as shown in Table 1.

3. Description of Variant 2 **approved on 3/11/11**

The @Weigh EHB series which are similar to the pattern but have a slightly modified enclosure as shown in Figure 1b.

The EHB series instruments are listed in Table 1.

Sealing of the calibration adjustment is provided by preventing access to the calibration switch underneath the instrument. This may be achieved by use of a disc (cover) and destructible adhesive label as shown in Figure 3b.

A destructible adhesive label should also be placed over at least one of the screws which join the housing halves as shown in Figure 3b.

4. Description of Variant 3 **approved on 3/11/11**

The pattern and variants 1 & 2 may also known as Micro instruments of the same models.

TABLE 1

Model Number	Maximum Capacity (<i>Max</i>)	Minimum Capacity (<i>Min</i>)	Verification Scale Interval (<i>e</i>)	Scale Interval (<i>d</i>)	Load Cell Model and Capacity (<i>E_{max}</i>)
NHB 150 EHB 150	150 g	0.04 g	0.02 g	0.002 g	HBM SPL 200 g
NHB 300 EHB 300	300 g	0.1 g	0.05 g	0.005 g	HBM SPL 300 g
NHB 600 EHB 600	600 g	0.5 g	0.1 g	0.01 g	HBM SPL 600 g
NHB 1500 EHB 1500	1500 g	1 g	0.2 g	0.02 g	HBM SPL 1500 g
NHB 3000 EHB 3000	3000 g	2.5 g	0.5 g	0.05 g	HBM SPL 3000 g
NHB 6000 EHB 6000	6000 g	5 g	1 g	0.1 g	HBM PW6K 10 kg

The pattern (model NHB 1500) is shown in **bold** text.

TEST PROCEDURE No 6/4C/271

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*.

Ensure that instruments are only being used within the special temperature limits stated elsewhere in this Technical Schedule.

FIGURE 6/4C/271 – 1



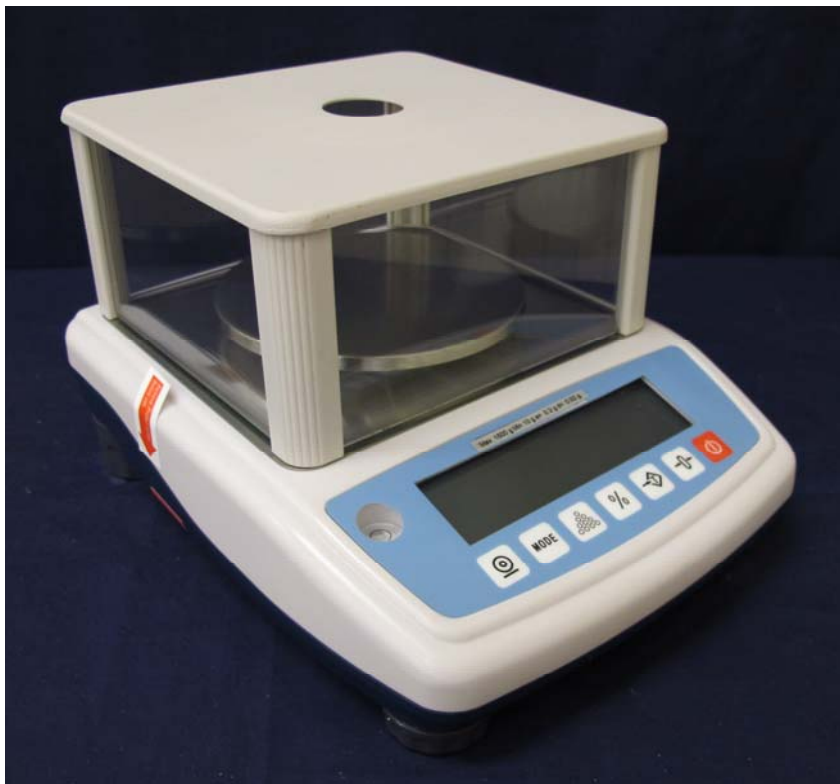
(a) @Weigh Model NHB 1500 Weighing Instrument
(the pattern)



(b) @Weigh EHB Series Weighing Instrument
(variant 2)

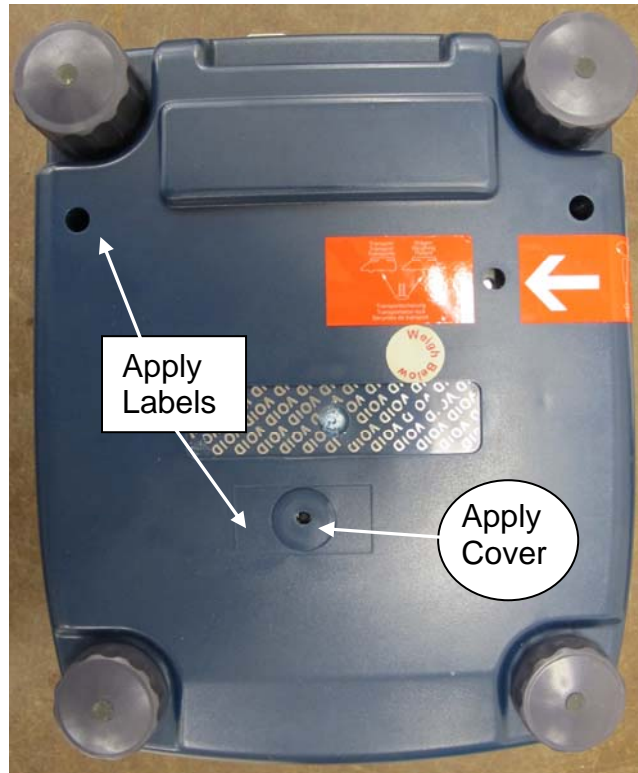
Typical @Weigh NHB and EHB Weighing Instruments

FIGURE 6/4C/271 – 2

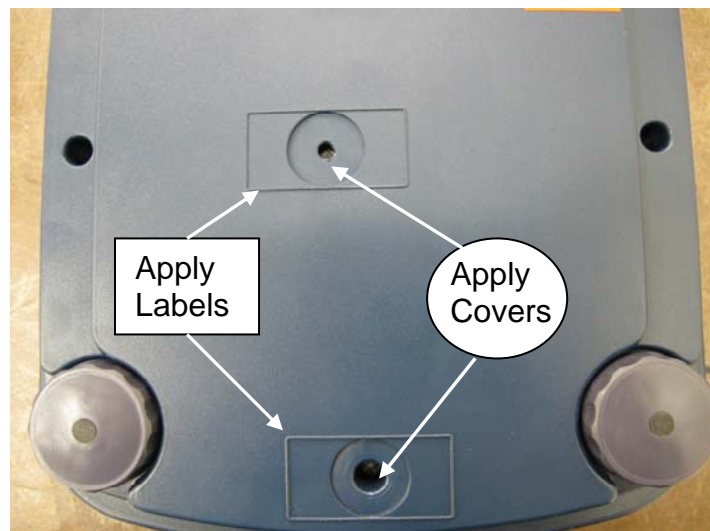


Instrument With a Typical Windshield

FIGURE 6/4C/271 – 3



(a) Sealing of Model NHB Weighing Instruments



(b) Sealing of Model EHB Weighing Instruments

Showing Typical Sealing