



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/10B/86

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.

Bilanciai Model SPT-28 Weighing Instrument

submitted by National Weighing & Instruments Pty Ltd
 1/88 Magowar Road
 Giraween NSW 2145

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 1/11/17, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – certificate issued	12/10/12

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/10B/86' 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 Certificates No S1/0/A or No S1/0B.

The pattern as approved herein or with substitute approved load cells and/or approved indicators and in other capacities, or with different platform sizes, shall comply with General Certificate of Approval No 6B/0.

Note: New instruments manufactured under this approval shall only use load cells and/or indicators with current Supplementary Certificates of Approval.

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 6/10B/86

1. Description of Pattern

approved on 12/10/12

A Bilanciai (Societa' Cooperativa Bilanciai) model SPT-28 class III non-automatic self-indicating weighing instrument of 30 000 kg maximum capacity and approved for use with up to 3000 verification scale intervals.

1.1 Basework

The model SPT-28 instrument (Figure 1) consists of a platform (with two wheel tracks and a gap between) comprised of a number of modules, with the modules designed to be connected together, with the platform to be supported by a number of load cells.

The platform is fully supported by 6 load cells. Dimensions of the platform are 12 x 3 m (nominal). Restraints are provided at both ends of the weighbridge to restrain the platform horizontally.

1.2 Load Cells

Six Eurocell model CPD-M C3 load cells of 20 000 kg capacity are used to support the platform.

The load cells are also described in the documentation of approval NMI S490.

1.3 Indicator

A Bilanciai model D800 digital indicator is used.

The indicator is also described in the documentation of approval NSC S429.

1.4 Special Features – Facility for transport of platform

The instrument may be designed to facilitate transport of the instrument platform by provision for each module of the platform to be folded in half facilitating its transport.

However verification of the instrument is required following any re-location of the instrument.

1.5 Weighbridge Requirements

Where the instrument is intended to be installed as a weighbridge, it shall be ensured that all relevant weighbridge requirements of the National Measurement Legislation are met (e.g. in relation to weighbridge approaches, visibility and the location of the weighbridge indicator and platform).

This approval does not certify that such requirements have (or can be) met.

The requirements of the National Measurement Legislation regarding the ground or floor under the platform vary according to whether the instrument is installed as a portable weighbridge (i.e. with special features as per 1.4 above), weighbridge without a pit or a weighbridge with a pit. However, bolting of the load cell support pads to suitable concrete piers is considered essential to provide a suitable stable base, irrespective of other aspects of instrument installation.

Note that it is important that suitable provision be made for the loading of test masses. For example, clear access for a forklift may be necessary at both sides of the platform.

1.6 Verification Provision

Provision is made for the application of a verification mark.

1.7 Sealing Provision

Provision is made for the calibration adjustments in the indicator to be sealed as described in the approval documentation for the indicator used.

1.8 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
Name or mark of manufacturer's agent
Indication of accuracy class	Ⓜ
Pattern approval mark for the instrument	NMI 6/10B/86
Pattern approval mark for the indicator	S...
Pattern approval mark for the load cells	S...
Maximum capacity	<i>Max</i> t or kg #1
Minimum capacity	<i>Min</i> t or kg #1
Verification scale interval	<i>e</i> = t or kg #1
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. Description of Variant 1

approved on 12/10/12

Other model Bilanciai S series instruments, as single interval, multiple range or multi-interval instruments similar to the pattern (designed to facilitate transport of the platform), of other capacities subject to approval parameters of the load cells and indicator, and compliance with General Certificate of Approval No 6B/0.

These models may be of a design similar to the pattern (designed to facilitate transport of the platform), or may be constructed without the features designed to facilitate transport of the platform and may be of metal or concrete deck construction (SBP/M or SBP/C series instruments respectively).

Instruments may have full platforms or wheel track platforms with a gap between.

The model number may contain suffixes indicating aspects of the particular model version (e.g. 'UTS 15 18X3/80' indicates an 18 m x 3 m instrument of 80 t maximum capacity using U channels, 'UTB 15 36X3/100' indicates a 36 m x 3 m instrument of 100 t maximum capacity using U beams.).

The platform is fully supported by no less than 4 and with up to 24 NMI approved load cells. Instruments may be in capacities of:

- 100 kg up to 1499 kg;
- 1500 kg up to 14 999 kg;
- 15 000 kg up to 149 999 kg; and
- 150 000 kg and above,

using approved load cells and an approved digital indicator (in accordance with General Certificate of Approval No 6B/0).

Instruments are approved for use with up to 4000 verification scale intervals (subject to the approval parameters of the load cells and indicator).

Instruments used with more than 3000 verification scale intervals shall be provided with wind protection in accordance with clause **4. Wind Effects** of General Certificate of Approval No 6B/0.

3. Description of Variant 2

approved on 12/10/12

Bilanciali model SPT-28H series instruments, which are similar to variant 1 but which have the load receptor in the form of a hopper, tank or silo fully supported by approved load cells. The model number may contain suffixes indicating aspects of the particular model version.

Instruments may be in capacities of:

- 100 kg up to 1499 kg;
- 1500 kg up to 14 999 kg;
- 15 000 kg up to 149 999 kg; and
- 150 000 kg and above,

using approved load cells and an approved digital indicator (in accordance with General Certificate of Approval No 6B/0).

Instruments are approved for use with up to 4000 verification scale intervals (subject to the approval parameters of the load cells and indicator).

Instruments used with more than 3000 verification scale intervals shall be provided with wind protection in accordance with clause **4. Wind Effects** of General Certificate of Approval No 6B/0.

Instruments are either:

- (a) fitted with 3, 4 or 5 approved load cells (arranged symmetrically to ensure even loading of each cell) where the hopper is a vertical cylindrical or tank type load receptor directly supported by the load cells; or
- (b) fitted with 4 approved load cells where the hopper is a non-vertical cylindrical, or other hopper-type load receptor.

Note: Instruments with more than the number of load cells mentioned above may be acceptable if prior written agreement from the National Measurement Institute is obtained.

Suitable provision must be made for the application of suitable verified masses to the instrument as required for verification purposes. It may be necessary for such masses to be incorporated within the design of the instrument.

TEST PROCEDURE No 6/10B/86

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*.

Note regarding eccentricity test

Where present, special features of the instruments (e.g. the gap between wheel tracks rather than a full platform) may result in difficulty with the application of the eccentricity test specified in the National Instrument Test Procedures. It is important to note when conducting the eccentricity test, that the load(s) for the eccentricity test shall be placed toward the centre of the loading area, and shall not be concentrated at the extreme edge of the area. See diagram below.

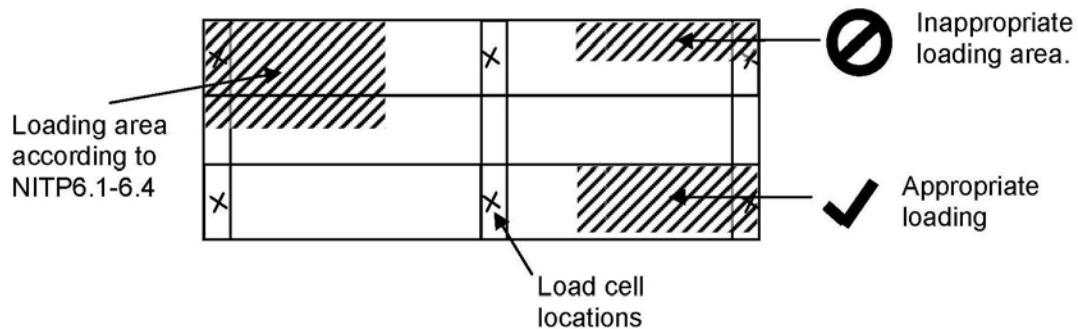


FIGURE 6/10B/86 – 1



Photograph showing platforms

Bilanciai Model SPT-28 Weighing Instrument

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