Australian Government
Department of Industry and Science

National Measurement Institute

Certificate of Approval

NMI 6/10B/87

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.

Bio Drive Model SCS 60 Weighing Instrument

submitted by Bio Drive Australia Pty Ltd
86 Gate Road
Kulin WA 6365

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 1/05/18, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 to 2 approved – interim certificate issued	10/04/13
1	Pattern & variants 1 to 2 approved – certificate issued	19/07/13
2	Pattern & variants 1 to 2 amended – certificate issued	30/09/15

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/10B/87' 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 Certificate 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 their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Dr A Rawlinson

TECHNICAL SCHEDULE No 6/10B/87

1. Description of Pattern approved on 10/04/13

A Bio Drive model SCS 60 class (III) non-automatic self-indicating weighing instrument (Figure 1) of 60 000 kg maximum capacity and approved for use with up to 3000 verification scale intervals.

1.1 Basework

The model SCS 60 basework has the platform fully supported by 8 load cells. Dimensions of the platform are 15 × 3 m (nominal).

1.2 Load Cells

Eight HBM model C16A-C3 load cells of 30 000 kg capacity are used to support the platform.

The load cells are also described in the documentation of approval NMI (or NSC) S370.

1.3 Indicator

A Rinstrum model R423 digital indicator is used.

The indicator is also described in the documentation of approval NMI S463.

1.4 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, 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.

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 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.

1.7 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	(III)
Pattern approval mark for the instrument	NMI 6/10B/87
Pattern approval mark for the indicator	S…
Pattern approval mark for the load cells	S…
Maximum capacity	*Max* ..... t or kg #1
Minimum capacity	*Min* ..... t or kg #1
Verification scale interval	*e* = ... 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 15/3/13**

Other Bio Drive SCS series instruments in certain other capacities subject to approval parameters of the load cells and indicator, and compliance with General Certificate of Approval No 6B/0.

The model number may contain suffixes indicating maximum capacity of the particular model version (e.g. 'SCS 80' indicates an instrument of 80 t maximum capacity).

The platform is fully supported by no less than 4 and with up to **16** NMI approved load cells. Instruments may be in capacities of:

- 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 15/3/13**

Bio Drive TAS series instruments, which are similar to the pattern but which have the load receptor using bolted construction method (unlike the SCS series which uses welded construction). The model number may contain suffixes indicating maximum capacity of the particular model version.

Instruments may be in capacities of:

- 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.

TEST PROCEDURE No 6/10B/87

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.

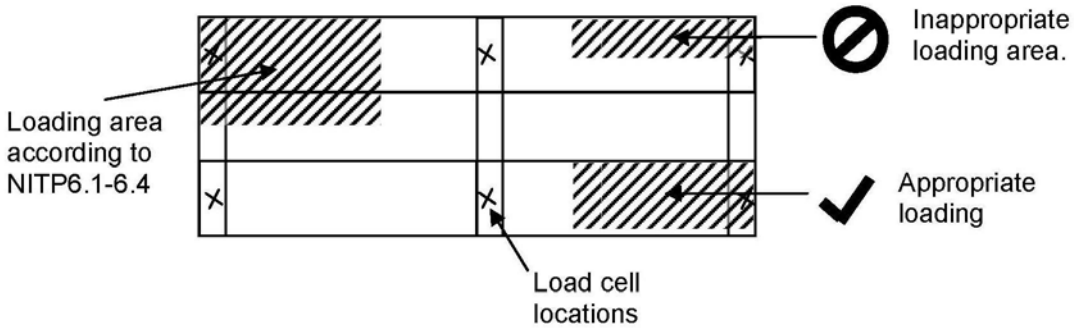

FIGURE 6/10B/87 – 1

Bio Drive Model SCS Weighing Instrument

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