



Australian Government

Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/14G/37

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.

Marel Model M2400-IWU-2LC Automatic Catchweighing Instrument

submitted by Marel Iceland ehf
Austurhraun 9
210 Gardabaer
ICELAND

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 documents NMI R 51, *Automatic Catchweighing Instruments*, dated August 2009.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and variant 1 approved – certificate issued	28/08/26

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/14G/37' 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.

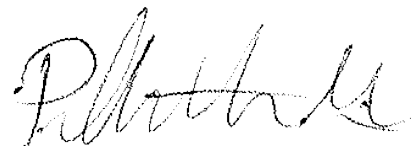
Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0B.

This approval shall NOT be used in conjunction with General Certificate No 6B/0.

Special

Certain aspects of this instrument (in particular label printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

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



Phillip Mitchell
A/g Manager
Policy and Regulatory
Services

TECHNICAL SCHEDULE No 6/14G/37

1. Description of Pattern

approved on 28/08/26

A Marel model M2400-IWU-2LC class Y(a) automatic catchweighing instrument (Figure 1a) which is approved for use to weigh objects either dynamically or statically. Note that Marel model M2400-IWU-2LC instruments may also be known as 'Inline Weigher'.

Instruments are intended for use as weigh labellers.

1.1 Details

The instrument is a class Y(a) single interval automatic catchweighing instrument with a maximum capacity of 20 kg and a verification scale interval of 0.01 kg with a minimum capacity of 0.2 kg.

The instrument operates dynamically (package in motion on the weighing receptor) or statically (package stopped on the weighing receptor). The maximum belt speed of the weighing receptor is up to 0.8 m/s.

The throughput is variable and depends on several factors, e.g. size of label, size of pack and weight of pack. The instrument has facilities to detect errors. If situations outside the limits occur, no weight value will be determined or recorded and no label will be printed.

Instruments may be fitted with data sockets (output interfacing capability) for the connection of peripheral and/or auxiliary devices, and for the external programming of PLU and labelling data.

The pattern comprises:

- A terminal/indicator with an LCD display/keyboard;
- A weighing module and conveyor system with associated controller;
- Infeed and outfeed conveyors may be provided at each end of the weigh conveyor;
- Optical sensors at the infeed end of the weigh conveyor; and
- One printer. Note the Special Condition of Approval regarding printing formats.

1.2 Zero

A zero-tracking device may be fitted.

The instrument has a semi-automatic zero-setting device and automatic zero-setting device with a nominal range of not more than 4% of the maximum capacity of the instrument, capable of setting zero to within $\pm 0.25e$.

The automatic zero-setting device must be active and operate at least once every 28 minutes during automatic operation.

The initial zero-setting device has a nominal range of not more than 20% of the maximum capacity of the instrument.

1.3 Tare

A subtractive pre-set tare device up to maximum capacity may be fitted.

1.4 Operation

In dynamic weighing mode, an object to be weighed moves from the infeed conveyor onto the weighing receptor conveyor and is weighed dynamically. After weighing, the object continues onto the outfeed conveyor where a label is then printed and applied to the object.

In start/stop mode, an object to be weighed moves from the infeed conveyor onto the weighing receptor conveyor, then the weighing receptor conveyor stops automatically to allow object to be weighted statically. After weighing, the object continues onto the outfeed conveyor. A label may be printed and applied to the object on the weighing receptor, or on the outfeed conveyor once it continues. The operation is not interfered with by the operator.

If the instrument is unable to obtain an acceptable weight reading, then printing is inhibited.

1.5 Terminal/Indicator

The terminal/indicator is fitted with a Marel model M2400-IWU LCD display with keypad. This is used to control the system and store data such as system parameters (e.g. conveyor speed, printing unit position and label format). It displays the weight (in kg).

1.6 Weighing Unit and Conveyor System

The weighing unit uses two Flintec model PCB-C3-100 kg load cells of 100 kg maximum capacity. The belt conveyor-type load receptor has a nominal length of 1200 mm and a width of 500 mm.

1.7 Verification Provision

Provision is made for the application of a verification mark.

1.8 Levelling

Instruments are provided with levelling feet and must be levelled and installed in a permanently fixed location.

1.9 Interfaces

Instruments may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 4.2.4 of document NMI R 51 (the basic intent of which is that it shall not be possible to alter weighing results via the interfaces).

Any measurement data output from the instrument or its interfaces (including printouts) shall only be used for trade in compliance with General Supplementary Certificate of Approval No NMI S1/0B (in particular in regard to the data and its format).

Indications other than the indications of measured mass (i.e. gross, tare, net, totals) displayed either on the indicator or on an auxiliary or peripheral device, are not for trade use.

Instruments may be fitted with RS-232, Ethernet, USB and CAN bus.

1.10 Data Storage Memory

Instruments may contain memory for the storage of weighing results.

For each weighing, weighing results together with identification including date and time are stored into the storage device.

Data from the storage device shall only be used for trade if the format of the output complies with General Supplementary Certificates of Approval S1/0B.

1.11 Descriptive Markings and Notices

Instruments shall carry the following markings:

Manufacturer's mark, or name written in full	Marel (or JBT Marel)
Importer's mark, or name written in full	Marel Australia
Model designation	
Serial number	
Accuracy class	Y(a)
Pattern approval mark	NMI 6/14G/37
Maximum capacity	Max/...../..... kg #1
Minimum capacity	Min kg #1
Verification scale interval	e =/...../..... kg #1
Maximum subtractive tare	T = - kg
Maximum conveyor speed	 m/s
Electrical supply voltage	 V
Electrical supply frequency	 Hz

- #1 These markings are also shown near the display of the result if they are not already located there.

1.12 Software Version

The software includes firmware version and weighing module version.

The firmware version number is designated 1.yy-zz, where “yy” represents minor part which not affecting the legal measurement functionality, and “zz” represents minimal change and bug fixes.

The weighing module version is identified by a number 100.

The software versions (Figure 3) are displayed by pressing the  key, and navigating to 'Identity' and then pressing the  key.

1.13 Sealing

The instrument may be sealed via physical or software means.

a) Software sealing

The instrument is sealed by recording the event counters on verification.

Access to the calibration and metrological configuration must be protected by a passcode.

The non-resettable event counters, each up to 999, increment their values each time the instrument is calibrated or re-configured.

The values of these event counters can be viewed by pressing the  key and navigating to 'Audit', then pressing the  key. The audit logs screen is

displayed as shown in Figure 2c. The values at the time of verification shall be recorded on a destructible adhesive label attached to the instrument (e.g. as CAL followed by a number, CON followed by a number).

Any subsequent alteration to the calibration or configuration will be evident as the recorded value and the current counter value will differ.

b) Physical sealing

Alternatively, provision is made for the calibration to be sealed by means of setting the DIP switch S2-1 on the mainboard to the 'ON' position or the access control in menu Login to 'locked', and then preventing access within the instrument housing.

It is possible to check the S2-1 status as follows:

- Press and hold the  key for 5 seconds and select 'Audit', then press the  key.
- The audit logs screen is displayed as shown in Figure 2c.
- If the S2-1 is in the 'ON' position, the S2 DIP switch displays [SEAL=1]. In this case the instrument may be verified.
- Otherwise the instrument will display [SEAL=0] in which case the status of the access control should be checked as follows:
- Press the  key and navigate to the login menu as shown in Figure 2c.
- If the access control displays 'Locked', the instrument may be verified.
- Otherwise the access control will display 'Normal' in which case either the instrument is sealed by software means or the instrument should not be verified until the access control mode is set to 'Locked' by pressing the S1 button on the mainboard or the S2-1 switch has been correctly located in the 'ON' position.

Sealing to prevent access within the instrument housing may be achieved by use of one or more destructible adhesive labels at edges of the instrument housing or by use of 'lead & wire' type seals through holes on the instrument housing as shown in Figure 2d.

2. Description of Variant 1

approved on 28/08/26

The M2400-IWU-2LC series automatic catchweighing instruments which are similar to the pattern in certain other capacities with various load receptor lengths and widths as listed in Table 1 below (the pattern is shown in **bold**).

Table 1

Maximum Capacity (<i>Max</i>) (kg)	Minimum Capacity (<i>Min</i>) (kg)	Verification scale interval (<i>e</i>) (kg)	Maximum Conveyor Speed (*) (m/s)	Load Receptor Size Options (mm x mm)	No of Flintec PCB-C3-100 kg Load Cells
10	0.2	0.01	0.8	800 x 400	2
10	0.4	0.02		800 x 500	
15	0.2	0.01		800 x 600	
15	0.4	0.02		800 x 700	
20	0.2	0.01		800 x 700	
20	0.4	0.02		1000 x 400	
25	0.2	0.01		1000 x 500	
25	0.4	0.02		1000 x 600	
30	0.2	0.01		1200 x 500	
30	0.4	0.02		1200 x 600	
40	0.4	0.02			
60	0.4	0.02			

Note: * The instrument may operate with a maximum weighing conveyor speed up to the value in Table 1.

TEST PROCEDURE No 6/14G/37

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*.

FIGURE 6/14G/37 – 1

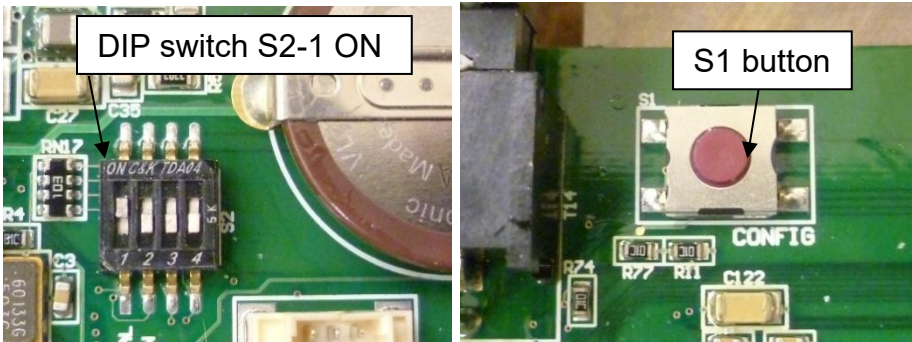


(a) Model M2400-IWU-2LC Instruments

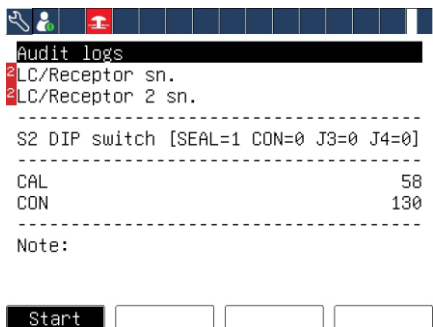


(b) Marel Model M2400-IWU Indicator

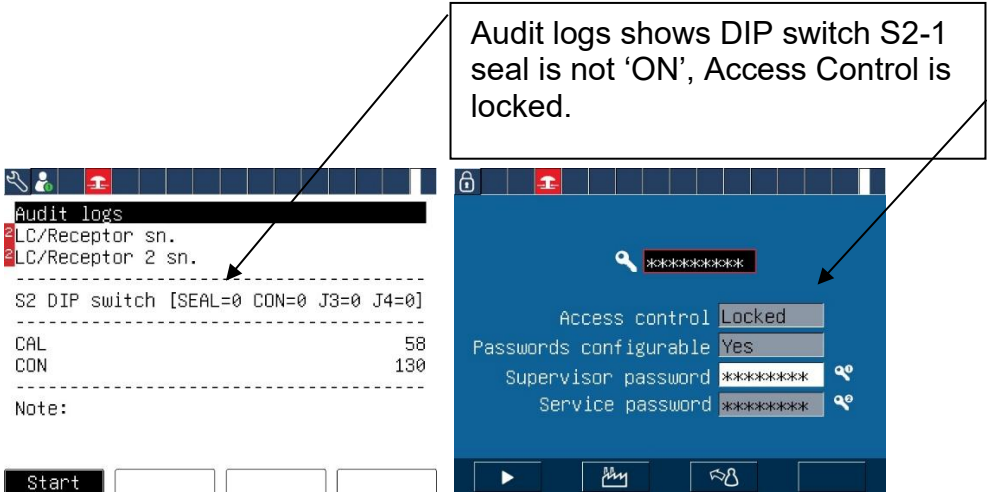
FIGURE 6/14G/37 – 2



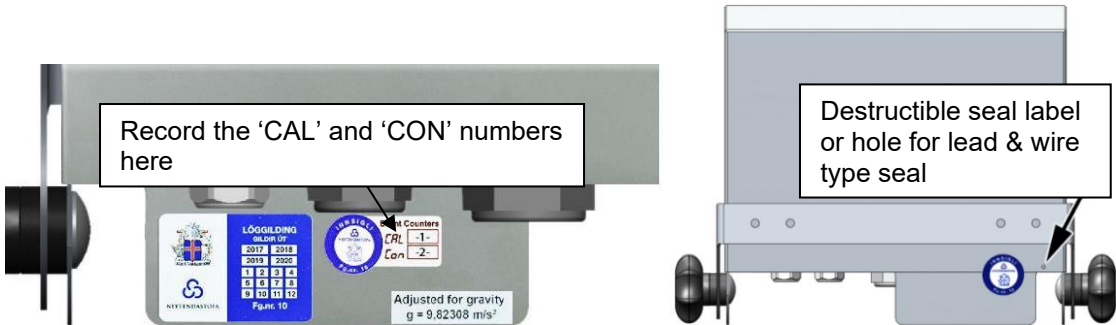
(a) Location of DIP Switch S2-1 and S1 Button



(c) DIP Switch S2-1 Sealed Status

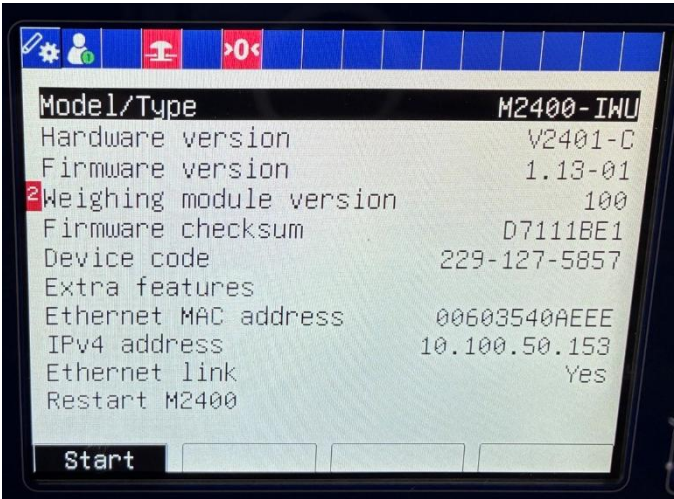


(c) Audit Logs With DIP Switch S2-1 in 'OFF' Position



(d) Event Counters Label and Seal Label
Typical Sealing Methods

FIGURE 6/14G/37 – 3



Software Versions

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