Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 6/9C/334

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 PL6000-600kg Weighing 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 document NMI R 76, *Non-automatic weighing instruments, Parts 1 and 2*, dated October 2015.

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 & variants 1 to 6 approved – certificate issued	19/05/26

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 6/9C/334' 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.

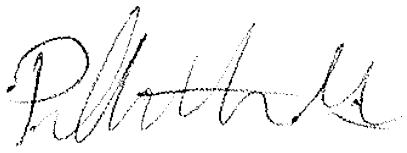
This approval shall NOT be used in conjunction with General Certificate No 6B/0.

Note:

New instruments manufactured under this approval with analogue load cells connected in parallel inside a junction box shall comply with 6-wire cable connection requirements between the junction box and the indicator as shown in Figures 9a and 9b; and

Instruments manufactured or converted under this approval shall only use approved indicators with reference to document NMI R 76 dated October 2015 or later.

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 6/9C/334

1. Description of Pattern approved on 19/05/26

A Marel model PL6000–600 kg class (III) non-automatic multiple range self-indicating weighing instrument (Figure 1) with a verification scale interval (e_1) of 0.1 kg for the low range which has a minimum capacity of 2 kg and a maximum capacity of 300 kg and with a verification scale interval (e_2) of 0.2 kg for the high range which has a minimum capacity of 4 kg and a maximum capacity of 600 kg.

Instruments may be configured so that the weighing range changes automatically with increasing load and when the indication remains at rest at zero.

The instrument has a stainless steel indicator with an LCD display for display of the weight value.

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

1.1 Basework

The basework model PL6000-600 kg has the load receptor directly supported by four load cells fitted with self-aligning supporting feet.

This model load receptor has a nominal dimension of 850 mm × 879 mm, and uses a stainless steel type 316 construction as shown Figure 1.

If approach ramps and end stops are provided care shall be taken to ensure that these do not interfere with the platform.

1.2 Load Cells

Four Flintec model SB14 C3 load cells of 454 kg capacity are used and are mounted as shown in Figure 2.

1.2.1 Load Cell connection

The load cells are connected in parallel inside a junction box (Figure 1b); and 6-wire cable connection is used between the junction box and the indicator (Figures 9a and 9b).

1.3 Indicator

A Marel model M2400-P03 digital indicator is used. The indicator is also described in the documentation of approval NMI S798.

1.3.1 Zero

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

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 be fitted.

1.3.2 Tare

A semi-automatic subtractive tare device of up to the maximum capacity of the instrument may be fitted.

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

1.4 Levelling

The instrument is provided with adjustable feet and a level indicator.

The instrument is to be used in a level condition as indicated by the level indicator.

1.5 Display Check

A display check is initiated whenever power is applied.

1.6 Power Supply

The power supply may be either 110 – 230 V AC (mains power) or 12 - 24 V DC.

1.7 Additional Features

Instruments may be fitted with dual displays and price computing. These functions are not approved for trade use.

1.8 Interfaces

The indicator may be fitted with interfaces for the connection of auxiliary and/or peripheral devices. Any interfaces shall comply with clause 5.3.6 of document NMI R76 (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

- 2 x RS-232 serial data interfaces;
- 1 x Ethernet;
- 2 x USB interfaces;
- 4 x digital inputs/outputs; and
- 1 x CAN bus.

1.9 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.

1.10 Verification Provision

Provision is made for the application of a verification mark.

1.11 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 version is displayed by pressing the key, then pressing the ‘0’ key (Figure 2).

1.12 Descriptive Markings and Notices

Instruments carry the following markings:

Manufacturer’s mark, or name written in full	Marel (or JBT Marel)
Indication of accuracy class	III
Pattern approval mark for the instrument	NMI 6/9C/334
Maximum capacity	*Max* … kg #1
Minimum capacity	*Min* .... kg #1
Verification scale interval	*e* =… kg #1
Tare capacity (if less then *Max)*	*T* = - ..... kg #2
Serial number of the instrument	.....

#1 These markings are shown in the electronic markings field above the display of the result.

#2 This marking is required if *T* is not equal to *Max*.

Note:

For multiple range instruments, the maximum capacity, minimum capacity and verification scale interval for each range shall be marked, with an indication (>) of the range to which they apply, e.g.

Max/Min/e=d= > …../…../….. kg
…../…../….. kg

1.13 Sealing Provision

The instrument may be sealed via physical and/or software means.

a) DIP switch S2-1 and S1 button sealing

Provision is made for the calibration to be sealed by means of setting the DIP switch S2-1 to the ‘ON’ position and then preventing access within the instrument housing. Note: If the DIP switch S2-1 is in the ‘ON’ position, the instrument will display ‘S2: SEAL switch is ON’ message during the initial power on display sequence as shown in Figure 3b.

Alternatively if the DIP switch S2-1 is in the ‘OFF’ position, the instrument can be sealed by setting the ‘Access control’ to ‘Locked’ and ‘Access configurable (S1 button)’ to ‘NO’ and then preventing access within the instrument housing. The status can be viewed by pressing the key and then the key. The audit logs screen is displayed as shown in Figure 3c.

Sealing to prevent access within the instrument housing may be achieved by the use of one or more destructible adhesive labels at edges of the instrument housing or by the use of ‘lead & wire’ type seals as shown in Figure 3d.

b) Software sealing

Alternatively, the instrument is sealed by recording the audit trail counters on verification.

Access to the calibration and metrological configuration must be protected by a passcode. The non-resettable event counters increment, each up to 999, each time any change to calibration 'CAL' or sealed configuration 'CON' parameters. The values of these event counters can be viewed by pressing the key and then the key. The audit logs screen is displayed as shown in Figure 3c.

The CAL xxx and CON yyy values shall be recorded on a destructible adhesive label attached to the instrument as shown in Figure 3d.

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

2. Description of Variant 1 approved on 19/05/26

The Marel model PL6000–600 kg which is similar to the pattern but fitted with four Flintec model SLB C3 load cells of 454 kg capacity in certain multiple range capacities in Table 1.

Table 1

Approved PL6000 series multiple range instruments using Flintec model SLB C3 load cells

Instrument/ Basework Model	Maximum Capacity (Max_1/Max_2) (kg)	Minimum Capacity (Min_1/Min_2) (kg)	Verification Scale Interval (e_1/e_2) (kg)	Maximum Platform Dimensions (mm x mm)	Flintec SLB C3 Load Cell Maximum Capacity (E_{max}) (kg)
PL6000-600kg	300/600	2/4	0.1/0.2	850 x 879	454 kg

3. Description of Variant 2 approved on 19/05/26

The model PL7000 series as multiple range in certain capacities in Table 2, with a stainless steel type 316 wash/clean down weighing platform having a hinged point between the platform and the support frame and lifts enabling the instruments platform to be raised for cleaning.

3.1 Basework

The basework model PL7000 series (Figure 5) has the load receptor directly supported by four Flintec model SB14 C3 or Flintec model SLB C3 load cells of 1134 kg capacity fitted with self-aligning supporting feet.

This model basework has nominal dimensions of 1250 mm × 1500 mm or 1500 mm × 1500 mm.

If approach ramps are provided care shall be taken to ensure that these do not interfere with the platform.

3.2 Levelling

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

Table 2

Approved PL7000 series multiple range instruments using Flintec model SB14 Class C3 or Flintec model SLB C3 load cells.

Instrument/ Basework Model	Maximum Capacity (Max_1/Max_2) (kg)	Minimum Capacity (Min_1/Min_2) (kg)	Verification Scale Interval (e_1/e_2) (kg)	Maximum Platform Dimensions (mm x mm)	Flintec SLB C3 or SB14 C3 Load Cell Maximum Capacity (E_{max})
PL7000-1200kg	600/1200	4/10	0.2/0.5	1250 x 1500	4 x 1134 kg
PL7000-1500kg	600/1500	10/20	0.5/1 kg	1250 x 1500	4 x 1134 kg
PL7005-1200kg	600/1200	4/10	0.2/0.5	1250 x 1500	4 x 1134 kg
PL7005-1500kg	600/1500	10/20	0.5/1 kg	1250 x 1500	4 x 1134 kg
PL7010-1200kg	600/1200	4/10	0.2/0.5	1500 x 1500	4 x 1134 kg
PL7010-1500kg	600/1500	10/20	0.5/1 kg	1500 x 1500	4 x 1134 kg
PL7015-1200kg	600/1200	4/10	0.2/0.5	1250 x 1500	4 x 1134 kg
PL7015-1500kg	600/1500	10/20	0.5/1 kg	1250 x 1500	4 x 1134 kg

4. Description of Variant 3 approved on 19/05/26

The model PU8000 series (Figure 6) as multiple range instruments in certain capacities listed in Table 3, with a stainless steel type 316 platform covering the U-shaped load receptor so the baseworks have a full platform.

4.1 Basework

The U-shaped load receptor directly supported by four Flintec model SB14 C3 or Flintec model SLB C3 load cells of 1134 kg capacity fitted with self-aligning supporting feet, and is intended primarily for the weighing of pallets.

This model basework has nominal dimensions of 845 mm x 1248 mm.

If approach ramps are provided care shall be taken to ensure that these do not interfere with the platform.

Note: The PU8000 series baseworks may be provided with wheels/rollers to facilitate ease of relocation, however levelling feet and a level indicator shall be provided and the instrument must be levelled following relocation.

Table 3

Approved PU8000 and PU9000 series multiple range instruments using Flintec model SB14 Class C3 or Flintec model SLB C3 load cells.

Instrument/ Basework Model	Maximum Capacity (Max_1/Max_2) (kg)	Minimum Capacity (Min_1/Min_2) (kg)	Verification Scale Interval (e_1/e_2) (kg)	Maximum Platform Dimensions (mm x mm)	Flintec SLB C3 or SB14 C3 Load Cell Maximum Capacity (E_{max})
PU8000-2000kg	1500/2000	10/20	0.5/1	845 x 1248	4 x 1134 kg
PU9000-2000kg	1500/2000	10/20	0.5/1	1010 x 1248	4 x 1134 kg
PU9010-2000kg	1500/2000	10/20	0.5/1	1230 x 1248	4 x 1134 kg

5. Description of Variant 4 approved on 19/05/26

The model PU9000 series (Figure 7) which are similar to variant 3 but having larger platform dimensions in certain multiple range capacities listed in Table 3.

This model basework has nominal dimensions of 1010 mm × 1248 mm or 1230 mm × 1248 mm.

If approach ramps are provided care shall be taken to ensure that these do not interfere with the platform.

Note: The PU9000 series baseworks may be provided with wheels/rollers to facilitate ease of relocation, however levelling feet and a level indicator shall be provided and the instrument must be levelled following relocation.

6. Description of Variant 5 approved on 19/05/26

The pattern and variants 1 to 4 may be fitted with a Marel model MU1 indicator (Figure 8) as multiple range instruments in certain capacities as listed in Tables 1 to 3. The indicator is also described in the documentation of approval NMI S699.

6.1 Sealing Provision

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

6.2 Software

The legally relevant software version and number are described in the approval documentation of the indicator.

7. Description of Variant 6 approved on 19/05/26

Certain baseworks of this approval used with a compatible NMI approved indicator (Supplementary Certificate with reference to document **NMI R76 dated October 2015 or later**) provided the conditions set out below are met. In this case instruments may be known according to the basework model number (e.g., model PL7010). Any devices and features described in the approval for the indicator shall apply to this instrument.

Note: Only submittor-authorised manufacture or conversion is permitted under this variant.

The load cells are connected in parallel inside a Marel junction box (Figure 1b); and 6-wire cable connection is used between the junction box and the indicator (Figures 9a and 9b).

The minimum temperature limit of the instrument is equal to the greater of the lower temperature limit of the basework or indicator. The maximum temperature limit is equal to the lesser of the upper temperature limit of the basework or indicator. The temperature range of the instrument shall be a minimum of 30 °C (e.g., 0 °C to 40 °C or 5 °C to 35 °C).

Note: Where no special temperature limits are given in the **Descriptive Markings and Notices**, then the temperature limits are −10 °C to 40 °C. If the temperature limits of the instrument are other than −10 °C to +40 °C, additional marking of special temperature limits must be added to the existing descriptive markings.

In addition to the markings specified in clause **1.12 Descriptive Markings and Notices**, instruments are marked with the NMI approval number for the indicator used, together in the same location. Where the resulting instrument is a multiple range instrument, appropriate markings regarding the ranges and scale intervals shall be provided in accordance with the Supplementary Certificate for the indicator.

The approved baseworks and their limiting characteristics are given in Tables 4 to 6.

The conditions to be met are given below, and include calculations using the following terms:

Ex = Excitation from indicator (V)

LC_Sens = Load cell sensitivity (mV/V)

E_{max} = Load cell maximum capacity (kg)

IZSR = Initial zero setting range for the indicator (kg) (positive range only)

DL = Dead load of load receptor (kg)

T^+ = Additive tare capacity (kg)

U_{min} = Minimum input voltage for the indicator (mV)

N = Number of load cells used

R_{LC} = Load cell input impedance (Ω)

L = Length of connecting cable (m)

A = Cross section of wire (mm^2)

Indicator Sensitivity = Minimum sensitivity value per verification scale interval for the indicator (μV)

e = verification scale interval of the instrument (kg). ***In the case of multi-interval or multiple range instruments, any reference to 'e' refers to the smallest verification scale interval (i.e. e_1).***

e_1, e_2, … = verification scale interval of each range for multiple range instruments (or partial weighing ranges for multi-interval instruments), e_1 refers to the smallest verification interval.

Max = the maximum capacity of the instrument. This refers to the maximum capacity of the highest range (i.e. Max_r for multiple range instruments).

Max_r = the maximum capacity of the instrument for a multiple range instrument, i.e. the maximum capacity of the highest range.

Max_1 Max_2 … = the maximum capacity of the various ranges for a multiple range instrument. Max_1 refers to the maximum capacity of the smallest range.

n_{LC} = the maximum number of verification intervals for which the load cell or basework is approved (e.g. 3000 for a 'class C3' load cell).

DR = dead load return value for the load cell. Note: Many load cells do not have a specified DR value.

The conditions are:

- The excitation voltage used is within the range approved for the baseworks.
- R_{LC} / N is within the impedance range approved for the indicator.
- The maximum load applied to the basework (live load plus any dead load) does not exceed the load cells maximum capacity, i.e.

$$(Max + 50\% \times Max + DL + IZSR + T^{+}) / N \leq E_{max}$$

- The verification scale interval is not less than the minimum value specified. ***In the case of multi-interval or multiple range instruments, the verification scale interval (e) refers to the smallest verification scale interval (i.e. e_1).***

$$v_{min} \leq \frac{e}{\sqrt{N}}$$

- The number of verification scale intervals is less than or equal to the n_{max} value specified. ***In the case of multi-interval or multiple range instruments, the number of verification scale intervals refers to the largest number in any weighing range or partial weighing range (i.e. the largest of Max_1/e_1, Max_2/e_2 etc).***
- The input voltage for the indicator (when the basework is unloaded) is not less than the minimum input voltage for the indicator (as specified in the approval documentation for the indicator), i.e.

$$U_{min} \leq Ex \times LC\_Sens \times DL / (E_{max} \times N)$$

Where U_{min} is not given in the Supplementary Certificate of Approval for the indicator, U_{min} = 0 mV.

- The length of extension cable between load cell junction box and indicator per wire cross section (*L/A)* in m/mm^2 is less than or equal to the maximum value of

load cell cable length per wire cross section $(L/A)_{max}$ approved for the indicator. Where $(L/A)_{max}$ is not given in the Supplementary Certificate of Approval for the indicator, $(L/A)_{max}$ = no special cable length/mm^2.

- The signal voltage per verification scale interval is not less than the minimum sensitivity value per verification scale interval for the indicator (as specified in the approval documentation for the indicator), i.e.

$$IndicatorSensitivity \leq \frac{1000 \times Ex \times LC\_Sens \times e}{N \times E_{\max}}$$

In the case of multi-interval or multiple range instruments, the verification scale interval (e) refers to the smallest verification scale interval (i.e. e_1).

<u>Additional requirement for multi-interval operation:</u>

In the case of indicators which are configured to form a multi-interval weighing instrument the instrument shall comply with one of the following conditions:

(i) The smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq 2 \times DR \times Max / E_{max}$$

Of course (i) cannot apply where a value of 'Dead load output return' DR is not given. In this case the smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq Max/n_{LC}$$

(ii) The instrument shall also satisfy the following condition with the exception of the last partial weighing range:

$$Max_i / e_{i+1} \geq 500 \text{ (e.g. } Max_1/e_2 \geq 500 \text{ and } Max_2/e_3 \geq 500)$$

<u>Additional requirement for multiple range operation:</u>

In the case of indicators which are configured to form a multiple range weighing instrument the instrument shall comply with one of the following conditions:

(i) The smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq DR \times Max_r / E_{max}$$

Of course (i) cannot apply where a value of 'Deadload return' DR is not given. In this case the smallest verification scale interval (e_1) shall satisfy the following:

$$e_1 \geq 0.4\ Max_r/n_{LC}$$

TEST PROCEDURE No 6/9C/334

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*.

Tests

For multi-interval and multiple range instruments with verification scale intervals of e_1, e_2 …, apply e_1 for zero adjustment, and maximum permissible errors apply e_1, e_2 …, as applicable for the load.

TABLE 4

Approved PL6000 series single or multiple range baseworks

Basework model	PL6000 - 600kg	
Maximum capacity (kg)	600	300/600(#MR)
Typical verification scale interval, VSI (kg)	0.2	0.1/0.2
Max platform size (mm x mm)	850 x 879	
Material	Stainless steel	
Max no. of verification scale intervals, n_{LC}	3000	3000/3000
Dead load of platform, DL (kg)	41	
Load cell make	Flintec	
Load cell model	SLB or SB14	
Load cell classification	C3	
No of load cells	4	
Load cell Max cap, E_{max} (kg)	454	
v_{min} of load cell (kg)	0.0395	
DR value (kg)	0.0757	
Load cell sensitivity (mV/V)	2	
Input impedance (Ω)	1100	
Excitation voltage (max) (V)	15	
Cable length (m) (*)	3	
No of leads (plus shield)	4	
Operating temperature range	−10 °C/+40 °C	

#MR - MR represents a multiple range instrument.
(*) Load cell cable shall not be altered after manufactured.

TABLE 5a

Approved PL7000 series single or multiple range baseworks

Basework model	PL7000 - 1200kg	PL7000 - 1200kg	PL7000 - 1500kg	PL7000 - 1500kg	PL7005 - 1200kg	PL7005 - 1200kg	PL7005 - 1500kg	PL7005 - 1500kg
Maximum capacity (kg)	1200	600/1200(#MR)	1500	600/1500(#MR)	1200	600/1200(#MR)	1500	600/1500(#MR)
Typical verification scale interval, VSI (kg)	0.5	0.2/0.5	1	0.5/1	0.5	0.2/0.5	1	0.5/1
Max platform size (mm x mm)	1250 x 1500		1250 x 1500		1250 x 1500		1250 x 1500	
Material	Stainless steel		Stainless steel		Stainless steel		Stainless steel	
Max no. of verification scale intervals, n_{LC}	2400	3000/2400	1500	1200/1500	2400	3000/2400	1500	1200/1500
Dead load of platform, DL (kg)	187		187		212		212	
Load cell make	Flintec		Flintec		Flintec		Flintec	
Load cell model	SLB or SB14		SLB or SB14		SLB or SB14		SLB or SB14	
Load cell classification	C3		C3		C3		C3	
No of load cells	4		4		4		4	
Load cell Max cap, E_{max} (kg)	1134		1134		1134		1134	
v_{min} of load cell (kg)	0.097		0.097		0.097		0.097	
DR value (kg)	0.189		0.189		0.189		0.189	
Load cell sensitivity (mV/V)	2		2		2		2	
Input impedance (Ω)	1100		1100		1100		1100	
Excitation voltage (max) (V)	15		15		15		15	
Cable length (m) (*)	3		3		3		3	
No of leads (plus shield)	4		4		4		4	
Operating temperature range	−10 °C/+40 °C		−10 °C/+40 °C		−10 °C/+40 °C		−10 °C/+40 °C	

#MR - MR represents a multiple range instrument.
(*) Load cell cable shall not be altered after manufactured.
Note: Baseworks are installed in a permanently fixed location.

TABLE 5b

Approved PL7000 series single or multiple range baseworks

Basework model	PL7010 - 1200kg	PL7010 - 1200kg	PL7010 - 1500kg	PL7010 - 1500kg	PL7015 - 1200kg	PL7015 - 1200kg	PL7015 - 1500kg	PL7015 - 1500kg
Maximum capacity (kg)	1200	600/1200(#MR)	1500	600/1500(#MR)	1200	600/1200(#MR)	1500	600/1500(#MR)
Typical verification scale interval, VSI (kg)	0.5	0.2/0.5	1	0.5/1	0.5	0.2/0.5	1	0.5/1
Max platform size (mm x mm)	1250 x 1500		1250 x 1500		1250 x 1500		1250 x 1500	
Material	Stainless steel		Stainless steel		Stainless steel		Stainless steel	
Max no. of verification scale intervals, n_{LC}	2400	3000/2400	1500	1200/1500	2400	3000/2400	1500	1200/1500
Dead load of platform, DL (kg)	218		218		242		242	
Load cell make	Flintec		Flintec		Flintec		Flintec	
Load cell model	SLB or SB14		SLB or SB14		SLB or SB14		SLB or SB14	
Load cell classification	C3		C3		C3		C3	
No of load cells	4		4		4		4	
Load cell Max cap, E_{max} (kg)	1134		1134		1134		1134	
v_{min} of load cell (kg)	0.097		0.097		0.097		0.097	
DR value (kg)	0.189		0.189		0.189		0.189	
Load cell sensitivity (mV/V)	2		2		2		2	
Input impedance (Ω)	1100		1100		1100		1100	
Excitation voltage (max) (V)	15		15		15		15	
Cable length (m) (*)	3		3		3		3	
No of leads (plus shield)	4		4		4		4	
Operating temperature range	−10 °C/+40 °C		−10 °C/+40 °C		−10 °C/+40 °C		−10 °C/+40 °C	

#MR - MR represents a multiple range instrument.
(*) Load cell cable shall not be altered after manufactured.
Note: Baseworks are installed in a permanently fixed location.

TABLE 6

Approved PU8000 series and PU9000 series single or multiple range baseworks

Basework model	PU8000 - 2000kg		PU9000 - 2000kg		PU9010 - 2000kg	
Maximum capacity (kg)	2000	1500/2000(#MR)	2000	1500/2000(#MR)	2000	1500/2000(#MR)
Typical verification scale interval, VSI (kg)	1	0.5/1	1	0.5/1	1	0.5/1
Max platform size (mm x mm)	845 x 1248		1010 x 1248		1230 x 1248	
Material	Stainless steel		Stainless steel		Stainless steel	
Max no. of verification scale intervals, n_{LC}	3000	3000/2000	3000	3000/2000	3000	3000/2000
Dead load of platform, DL (kg)	33		35		39	
Load cell make	Flintec		Flintec		Flintec	
Load cell model	SLB or SB14		SLB or SB14		SLB or SB14	
Load cell classification	C3		C3		C3	
No of load cells	4		4		4	
Load cell Max cap, E_{max} (kg)	1134		1134		1134	
v_{min} of load cell (kg)	0.097		0.097		0.097	
DR value (kg)	0.189		0.189		0.189	
Load cell sensitivity (mV/V)	2		2		2	
Input impedance (Ω)	1100		1100		1100	
Excitation voltage (max) (V)	15		15		15	
Cable length (m) (*)	3		3		3	
No of leads (plus shield)	4		4		4	
Operating Temperature range	−10 °C/+40 °C		−10 °C/+40 °C		−10 °C/+40 °C	

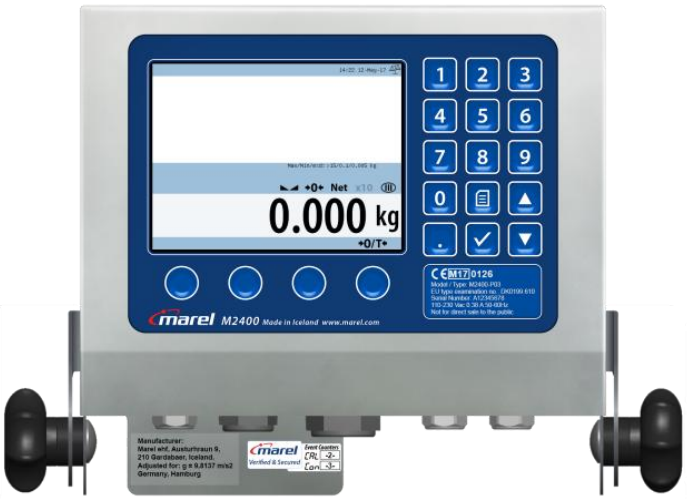
#MR - MR represents a multiple range instrument.
(*) Load cell cable shall not be altered after manufactured.

FIGURE 6/9C/334 – 1

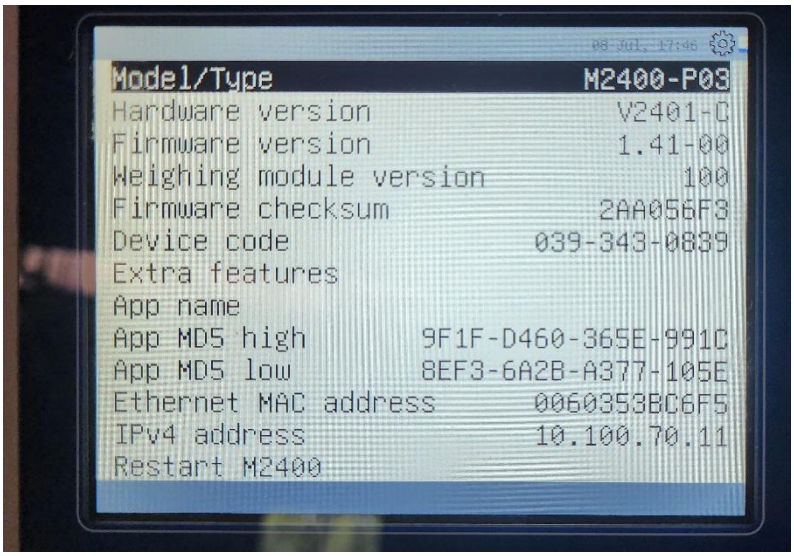
(a) Marel Model PL6000 Basework

(b) Marel Model TB-4 Junction box

FIGURE 6/9C/334 – 2

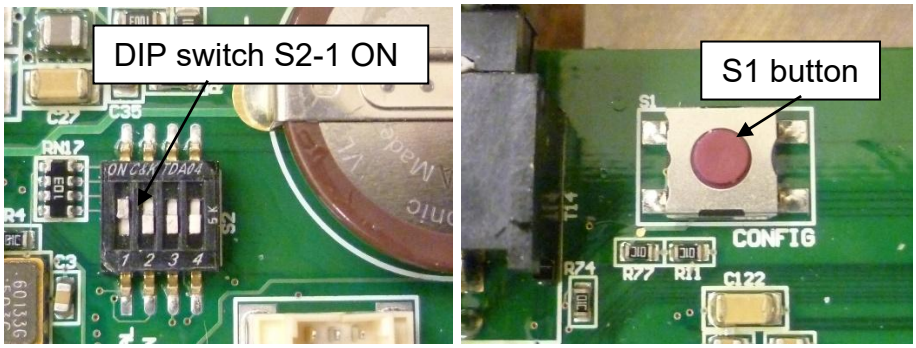


(a) Marel Model M2400-P03 Indicator

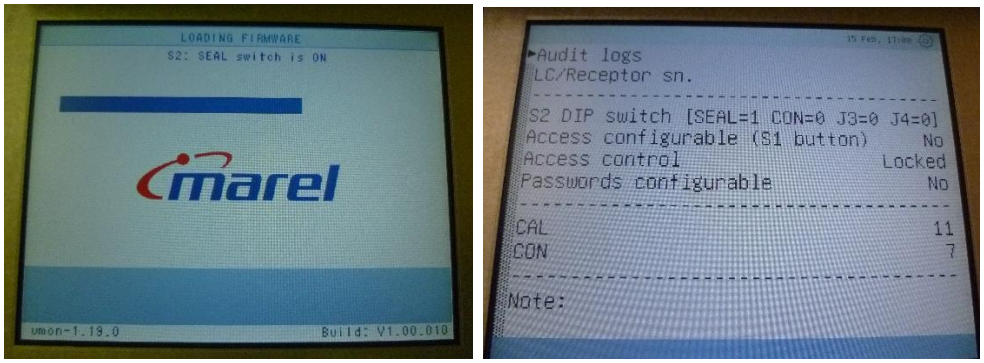


(b) Marel Model M2400-P03 Indicator Software Version

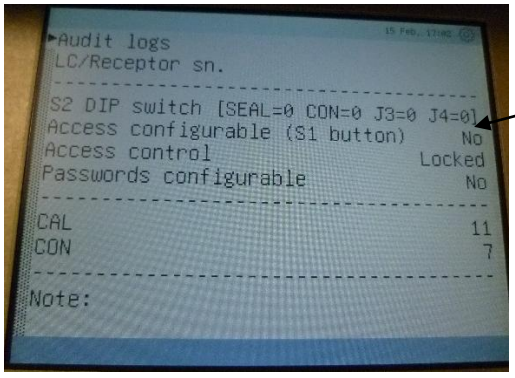
FIGURE 6/9C/334 – 3



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

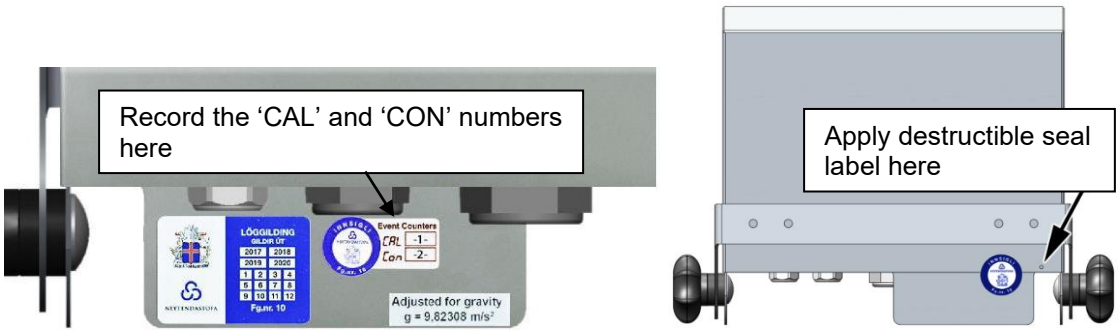


(b) DIP Switch S2-1 Seal Status



Audit logs shows DIP switch S2-1 seal is not 'ON', but access configurable S1 button is not activated, and access control is locked.

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



(d) Event Counters Label and Seal Label

Typical Sealing Methods

FIGURE 6/9C/334 – 4

Load cell mounting location.

FIGURE 6/9C/334 – 5

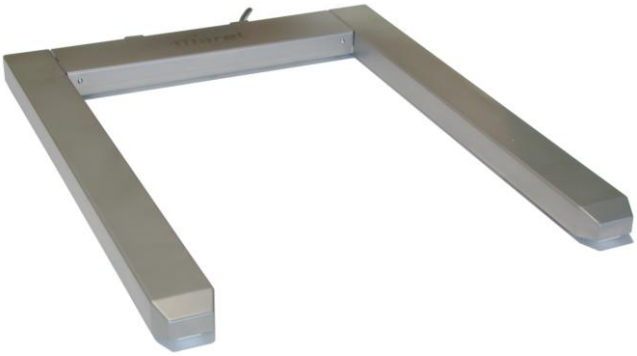
Marel Model PL70xx series Basework

FIGURE 6/9C/334 – 6

Marel Model PU8000-2000 kg Basework

View of Bottom of PU8000-2000 kg Basework

FIGURE 6/9C/334 – 7

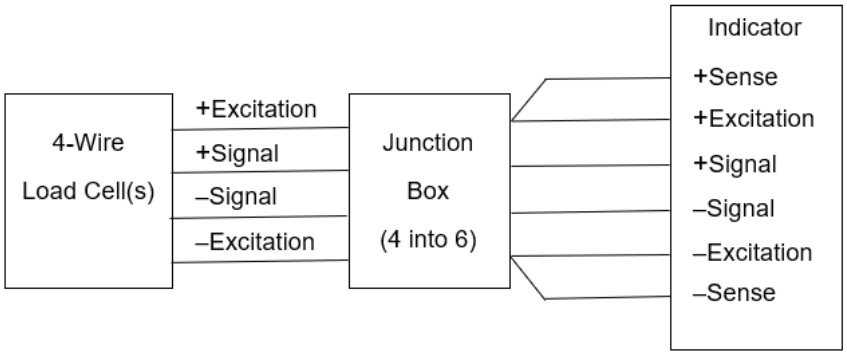


Marel Model PU9000-2000 kg Basework

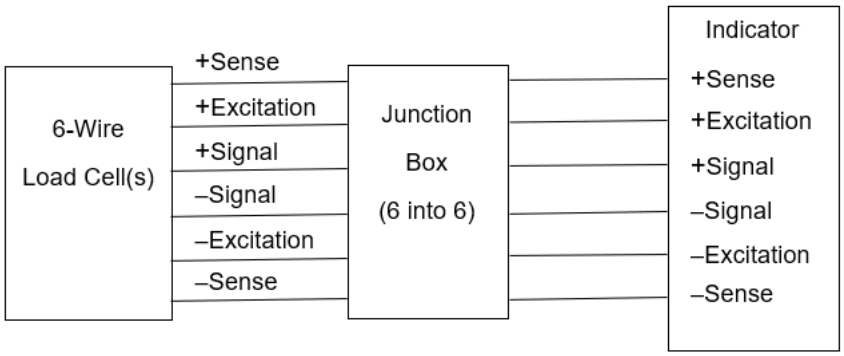
FIGURE 6/9C/334 – 8

Marel Model MU1 Indicator

FIGURE 6/9C/334 – 9



a) 4-Wire Analogue Load Cell Connection Using Junction Box



b) 6-Wire Analogue Load Cell Connection Using Junction Box

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