

	
<b>OIML Member State</b> United Kingdom of Great Britain and Northern Ireland	<b>OIML Certificate No.</b> <b>R51/2006-B-GB1-18.04</b>
<b>OIML CERTIFICATE ISSUED UNDER SCHEME B</b>	
OIML Issuing Authority <b>NMO</b> <b>Stanton Avenue</b> <b>Teddington</b> <b>TW11 0JZ</b> <b>United Kingdom</b>	
Person responsible:	<b>Mannie Panesar – Head of Technical Services</b>
Applicant	<b>Marel Limited</b> <b>Wyncolls Road</b> <b>Severalls Industrial Park</b> <b>Colchester</b> <b>CO4 9HW</b> <b>United Kingdom</b>
Manufacturer	<b>The applicant</b>
Identification of the certified type	<b>9000 Series Checkweigher / Weight or Weight-Price labeller</b> <i>(the detailed characteristics are defined in the Descriptive Annex)</i>
<p>This OIML Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML type evaluation report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):</p> <p><b>OIML R 51, Edition: 2006</b></p> <p>For accuracy classes: XIII(1) and Y(a)</p>	
<p><b>The OIML Issuing Authority</b></p> <p>Issue date: 29 August 2018</p>  <p><b>Grégory Glas</b>  <b>Lead Technical Manager</b>  <i>For and on behalf of the Head of Technical Services</i></p>	

This OIML Certificate relates only to metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML Recommendation identified above.

This OIML Certificate does not bestow any form of legal international approval.

The conformity was established by the results of tests and examinations provided in the associated OIML type evaluation report:

No. P02440 dated 29 August 2018 that includes 12 pages

The technical documentation relating to the identified type is contained in documentation file:

No. P02440-D dated 29 August 2018

#### **OIML Certificate History**

<b>Revision No.</b>	<b>Date</b>	<b>Description of the modification</b>
0	29 August 2018	Certificate first issued
-	-	-

No revisions have been issued.

*Important note:*

*Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated OIML type evaluation report(s) is not permitted, although either may be reproduced in full.*

## DESCRIPTIVE ANNEX

### Characteristics of the instrument:

This pattern of an automatic catchweigher, designated the 9000 Series, operates as an automatic weight or weight/price labeller (Category Y). The instrument may also operate as an automatic checkweigher (Category X).

The instrument comprises a weighing device with associated thermal label printer and mechanical handling facilities and is designed to weigh packs dynamically. Pricing, pack and labelling information is stored in files, known as Comformats, selectable for the commodity or labels being processed. Labels are printed with the required transaction data and are applied to the packs automatically.

### Construction:

#### Mechanical:

The instrument is constructed in stainless steel, anodised aluminium and plastics. The main frame work consists of a stainless steel re-enforced electrical cabinet that houses the control and display unit, electrical controls and adjustable screw feet for machine levelling. A level-indicator is provided on top of the weigh head conveyor. The modular conveyor section is fastened to the top of the electrical cabinet, and comprises in-feed, weigh head, and out-feed conveyors. The in-feed and out-feed conveyors are driven by dc motors. The weigh head conveyor is self-contained and is also driven by a dc motor

The pole-mounted control and display unit, situated behind the conveyors, houses the conveyor based electrical hardware and display. Commands are entered via the 15" TFT LCD touch-screen. Access is through a lockable rear cover. The machine covers are stainless steel throughout with a perspex cover provided over the weighing area. A selection of photocells are mounted along the centreline of the conveyors for pack detection. One or two photocells are mounted on the infeed belt sections to pitch packs onto the weigh table, a second is placed between the gap of the infeed conveyor and weigh table, another is placed between the weigh table and the outfeed conveyor

#### Electrical:

The electrical hardware is based in three main locations: the control and display unit, the electrical cabinet and the thermal label printer.

The control of the instrument is provided by a single board, designated the Elvis board. The Elvis board uses a Motorola MPC860 microprocessor, designated the PM860 Power PC Module. It also communicates with the common I/O module to handle the basic I/O functions and conveyor-based dc motors.

The PM860 interface is the pole-mounted control and display unit, communicating via Ethernet. The control and display unit houses a 15" TFT LCD, a resistive touch screen (Figure 2) and a Fujitsu D2703 single board computer with dual core processor, using the Windows XP operating platform. The common I/O board is also the control interface to the labeller providing CAN and pack-timing information to ensure each pack is labelled with the correct information.

Interconnecting conduits between the main electrical cabinet and the thermal labeller contains mains power, signal and communication cables and air supply. The thermal label head comprises a main processor module, host board for I/O and a display and keypad. The main processor module incorporates a 32-bit microprocessor memory, communication ports and a connection to the host I/O board.

Technical Data:

Range	All
Minimum capacity (Min)	20e
Tare (T)	-450 e (single interval) -450 e1 (multi interval)
Climatic environment	0°C to +35 °C
	Non-condensing (closed)
EM environments	E1 and E2
Load cell excitation voltage	14 Vdc
Power supply	230 Vac 50/60 Hz
Display/keyboard location	Control and display unit
Accuracy classes	Y(a) and XIII(1)

Maximum operating speed:

Single interval: 0-1500e: 0.8 m/s      1501e-Max: 0.6 m/s  
Multi-interval: 0-1500e2: 0.8 m/s      1501e2-Max: 0.6 m/s

Load cell:

Entry / Mid-range:

Maximum capacity (Max)	1500 / 3000 g	1500 / 4600 g	3000 g	4600 g	5500 g
Verification scale interval (e)	1/2 g	1/2 g	2 g	2 g	2 g
Load cell type	Tedeo Huntleigh 1040 C3				
E <sub>max</sub>	10 or 15 kg				

Top range:

Maximum capacity (Max)	1500 g	1500 g
Verification scale interval (e)	1 g	2 g
Load cell type	Tedeo Huntleigh 1040 C3	
E <sub>max</sub>	10 or 15 kg	

Heavy range:

Maximum capacity (Max)	10/20 kg	5/10/40 kg	10/40 kg	27.5 kg	40 kg
Verification scale interval (e)	5/10 g	5/10/20 g	10/20 g	10 g	20 g
Load cell type	Tedeo Huntleigh 1260 C3				
E <sub>max</sub>	50 or 75 kg				

Any compatible load cell(s) may be used providing the following conditions are met:

- There is a respective OIML Certificate of Conformity (R60) issued for the load cell.
- The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules and any particular installation requirements. A load cell marked NH is allowed only if humidity testing to R76 has been conducted on this load cell.
- It is not a load cell with digital output
- The characteristics of the replacement load cell such as nlc, Y, Z are the same or better than the load cell tested dynamically (Tedeo 1040 C3, capacity 15 kg)
- The design of the load cells and the material are the same

- No oil damper is used

The minimum voltage input per scale interval shall not be less than 1.87  $\mu\text{V}/\text{e}$ .

Devices:

- Automatic zero setting device active during automatic operation (at least every 3 h)
- Semi-automatic zero-setting ( $\leq 4\%$  max, testing mode only)
- Initial zero-setting ( $\leq 20\%$  max)
- Pre-set tare device (subtractive)
- Static calibration, not accessible to the user
- Belt speed setting, accessible to the user
- Internal memory for storage of batch data (category X)
- Device acting upon significant faults
- Screen check at power-up
- Label editing (restricted to access levels higher than operator)
- Conformat editing (restricted to access levels higher than operator)
- High resolution mode (0.1e) for testing purposes, not accessible to the user
- Operation under Category Y only or X and Y selection device, accessible to the user (restricted to access levels higher than operator, see note below)

Construction:

- Main frame work consisting of a stainless steel re-enforced electrical cabinet that houses the control and display unit, electrical controls and adjustable screw feet for machine levelling
- Level-indicator on top of the weigh head conveyor
- Modular conveyor section fastened to the top of the electrical cabinet, and comprising in-feed, weigh head, and out-feed conveyors (driven by DC motors)
- Pole-mounted control and display unit, situated behind the conveyors, housing the conveyor based electrical hardware and display. Alternatively, the control and display unit may be included in a remote pod connected to the electrical cabinet by a conduit
- 15" TFT LCD touch-screen (control and display unit)
- Machine covers are stainless steel throughout with a perspex cover provided over the weighing area
- Selection of photocells mounted along the centreline of the conveyors for pack detection
- weighing device comprising of a single strain gauge load cell located below the centre of the weigh conveyor.
- label head mounted above the out-feed conveyor, containing the hardware necessary to print, feed and apply self-adhesive labels from a reel.

Interfaces:

- RS232/RS485/RS422
- Ethernet
- Digital I/O

### Software:

The legally-relevant section of the software has its own version number, 1.1, which is displayed in the Info page of the Test Window.

The overall software version number is also shown in this window, and is of the form w.x.y.z where z is set to zero for all production software. The overall software does not include any legally relevant software.

The firmware boot code software version number is also shown in this window and is currently at 1.13.0. The boot code does not include any legally relevant software.

Any changes to legally relevant parts of the software will result in a change to the legally relevant software version numbers. Any changes to the non-legally relevant parts of the software will result in a change to the overall software version number.

### Security:

Legally relevant parameters are protected by two event counters, one specifically for weight calibration and the other one for all other legally relevant parameters. The value stored in these counters is incremented each time any of the legally-relevant parameters are altered. These counters are designated "Calibration Count" and "Configuration Count" and can be displayed in "Main Menu / System Information". Access to these legally relevant parameters shall be password-protected, and both counters must be written on a tamper-evident label, located on or near the rating plate.

### Printing (Weight/Weight-Price labeller: category Y)

Editing of the printed labels format is restricted to Manager or Supervisor levels. The labels must bear the weight, unit price and price to pay (when applicable), with associated units. Currency units must be in accordance with the country of use.

When preset tare values are printed, they must be identified as such, and net and/or gross weights should be clearly identified when printed with a tare value. Net weights do not require such identification when the preset tare value is not printed.

Printing below Min is not authorised.

### Alternatives:

1. The machine may be fitted with two top labellers, in which case the system is modified as follows. The outfeed conveyor length is extended and two identical label printers are fitted in series. Each printer is connected to the control cabinet via its own interconnecting conduit containing mains power supply, an air supply pipe and signal cables (RS232). The Group Comformat may be used to enable labelling using one printer only, or using both

2. The machine may be fitted with a base labeller. The base labeller is a Delford labeller which is controlled directly by the main control cabinet via an RS232 serial or CAN interface on the main control cabinet. The labeller has inputs to detect conveyor movement and its own photocell. It comprises a main processor module, a host board, an I/O and stepper board, a printhead interface board and a display and keypad. The main processor module incorporates a 32-bit microprocessor, memory, serial ports and a connection to the host board.

The maximum packs/min throughput of the machine may be limited by the speed of the base labeller.

The base labeller is connected directly to the main control cabinet of the control cabinet via the RS232 serial or CAN interface, the software in the control cabinet communicates with the base labeller as if it were a top labeller. The base labeller does not store label formats, but does store fonts and logo bitmaps

3. The top labeller may be removed from the machine, in which case the frame is modified and the machine fitted with one or two base labellers. Where the machine is fitted with two base labellers the outfeed conveyor is extended with the bed having two apertures.
4. The machine may be fitted with two top labellers and a base labeller, in which case the base labeller will be connected to the same RS232 serial port as the second top labeller. The user will manually switch between the top labeller and base labeller using a serial port switch.
5. The machine may be fitted with a rotary label applicator in place of the linear label applicator. The maximum belt speed is 0.8 m/s.
6. The machine may have the base labeller mounting changed so that there is no lift mechanism, pneumatic locking bolts or PLC.
7. The machine may have a thermal label printer without the small keypad and display.
8. The instrument may be modified to enable the connection of a sleeving/labelling unit (SLU), in which case the instrument is designated the 'Integrated machine'. The outfeed conveyor and thermal label printer are removed such that the system comprises only three conveyors. The thermal label printer is replaced by a Smart Date printer provided on the SLU. The outfeed conveyor is replaced by the infeed conveyor of the SLU. The SLU is a stand-alone system which is mounted following the weigh head conveyor of the modified instrument. The interface between the instrument and the SLU is achieved by communication via a PIP processor board and the SLU's PLC. The SLU utilises the Smart Date printer to print the associated weight and price information received from the 'Integrated' machine onto the sleeve. The SLU takes the sleeve and places it around the pack. Interlocks are provided to ensure that the correct sleeve is placed on each pack.

The Smart Date printer may be replaced by a Markem Cimjet printer and the instrument may be configured such that the outfeed conveyor and thermal label printer are retained. The stand-alone SLU is mounted following the outfeed conveyor.

The instrument may be configured to operate using:-

- (i) only the thermal label printer; or
- (ii) only the SLU; or
- (iii) both the thermal label printer and the SLU.

9. The instrument may have a modified construction as follows.

The instrument comprises a framework which supports the modular conveyor sections, the electrical cabinet and the pole-mounted control and display unit. There are three conveyors; the infeed, separator and weigh head conveyor. The conveyors are driven by brushless DC motors with the speed controlled by software. A cover is provided over the weigh head conveyor.

The instrument may have a Modular labeller.

The outfeed conveyor and thermal label printer are combined in a stand-alone modular labeller which is connected to the main instrument and is located following the weigh head conveyor.

Multiple modular labellers, including base labellers, may be connected to the instrument.

The modular labeller(s) may be removed from the system and replaced by an SLU.

The instrument may be configured with both a modular labeller and an SLU. and may operate using:

- (i) only the modular labeller; or
- (ii) only the SLU; or
- (iii) both the modular labeller and the SLU.

10. The instrument may have a modified construction where the pole-mounted control and display unit (described above) is replaced by a remote pod with conduit, mounted on a stand. The remote pod assembly follows drawing AC1545632 and the conduit shall be according to drawing AC1545649.

11. The instrument may be manufactured by:

AEW Delford Systems  
Wyncolls Road  
Severalls Industrial Park  
Colchester  
CO4 9HW  
United Kingdom

12. The instrument may be fitted with a modified board, designated the Elvis Lite.

13. Modified construction, PM860 interface (described section in page 3) is replaced by an interface type M6215. The M6215 is fixed to the top of the electrical cabinet located behind the conveyors. This instrument is designated the 9500W Series.

14. Modified instrument, with the PM860 Power PC Module replaced by a processor board type M10K. The PM860 interface is replaced by a control and display unit comprising; a 15" TFT LCD display and a resistive touch screen type RD6385 from Review Display Systems, interfacing with the M10K processor and a Fujitsu Siemens 3313 motherboard which is mounted in the electronics box below the conveyor system. The Fujitsu mother board uses the Windows 7 operating platform.

15. With the maximum speed set to 1.0 m/s for the following weighing ranges:

- 100e – 1000e (single-interval), and
- 100e<sub>2</sub> – 1000e<sub>2</sub> (multi-interval).

16. Modified instrument, with the PM860 interface described under construction, or the M6215 interface described in Alternative 5, replaced by an interface type M6415.

17. Having modified instruments designated the 9000+ and 9500+. running the Windows 7 operating system with the legally relevant software version 1.2, which is displayed in the Info page of the Test Window.

18. Having the 9000 series instruments running on the Windows 10 operating system, which is an alternative to the earlier version of the Windows operating system authorised in this certificate.