

# EU Type Examination Certificate

**No. 0200-MID-05152**

**9000 series**

**AUTOMATIC CATCHWEIGHING INSTRUMENT**

**Issued by**        **FORCE Certification**  
EU - Notified Body No. 0200

In accordance with the requirements for the automatic weighing instruments in Directive 2014/32/EU of the European Parliament and Council of February 26, 2014 on Measuring Instruments (MID).

**Issued to**        **Marel Limited**  
Wyncolls Road  
Severals Industrial Park  
Colchester, CO4 9HW  
United Kingdom

**In respect of**    Automatic checkweighing / catchweighing instrument designated 9000 series with variants of modules of load receptors, load cells and peripheral equipment.  
Accuracy class XIII(1) and Y(a).  
Maximum capacity:  $\leq 40\text{kg}$   
Verification scale interval:  $e \geq 1\text{ g}$ .  
Maximum number of verification scale intervals:  $n \leq 2750$  for single interval  
 $n \leq 2750$  per interval for multi-interval  
(however dependent on environment and the composition of the modules).  
Variants of modules and conditions for the composition of the modules are set out in the annex.

The conformity with the essential requirements in Annex 1 and the specific requirements in Annex VIII (MI-006), chapter I & II of the Directive 2014/32/EU is met by the application of OIML R51-1:2006 and WELMEC Guide 7.2:2018.

The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 12 pages.

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FORCE Certification references:

Task no.: 118-33891.90.30 and ID no.: 0200-MID-05152

**Signatory: J. Hovgård Jensen**

## Descriptive annex

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## 1. Name and type of instrument and modules

The automatic catchweighing instrument is a dynamic weighing automatic weight or weight/price labeller (category Y) designated 9000 series and is intended for dynamically weighing. The instrument may also operate as an automatic checkweigher (Category X). It consists of a touch-screen application controller together with the digital weighing module MWS2 and a load receptor, which is built into a conveyor section.

The load receptor has transport conveyors before or after and optional thermal label printers for printing labels with weighing information and other data.

The optional label printers print labels with weighing information and other data and can be mounted as top, base, side and front/back of pack labellers.

The automatic catchweighing instrument may as an alternative or an addition to the label printer be connected to a sleeving/labelling unit (SLU).

## 2. Description of the construction and function

### 2.1 Construction

The instrument is constructed in stainless-steel, aluminium and plastic.

The weighing conveyor is constructed of thick stainless-steel plates with a single load cell in a base plate mounted in the conveyor. The control unit, touch-display and motor controllers are mounted in an electrical cabinet which is located behind the weighing conveyor on a pole.

An infeed and outfeed conveyor is mounted before and after the weighing conveyor.

Multiple thermal printers for labels can be mounted at different positions in connection with the outlet conveyor.

#### 2.1.1 Indication

The PM860 is a pole mounted controller and display unit and is used for displaying information including weighing information and for communication with the operator. The display unit uses a 15" TFT LCD touch-screen.

The control and display unit can be placed in a remote pod as an option.

#### 2.1.2 Electronics:

The control of the instrument is provided by a single-board computer designated the Elvis board.

A Marel MWS2 analogue data processing device used for the weighing operation.

The PM860 controller provides a CAN bus which is used for controlling the conveyor motors, the I/O board and for obtaining the weighing information from the MWS2.

As an alternative the M10K controller can be used instead.

As another alternative either M6215 or M6415 controller can be used instead. Then the instrument is designated 9500W.

The instrument is power supplied from 230 VAC 50/60Hz Mains Power Supply.

#### 2.1.3 Load cells

Set out in Section 3.2.

#### 2.1.4 Load receptor

Set out in Section 3.3.

### **2.1.5 Interfaces and peripheral equipment**

Set out in Section 4.

## **2.2 Function**

The instruments weigh packages as they pass over the weighing conveyor feed by an in-feed conveyor and passed on to an outfeed-conveyor.

When configured as a catchweigher (category Y) a label print head is mounted over the outfeed-conveyor. The head contains a label printer and hardware for feeding and applying the label on the package. Package and label information is stored in files called Comformats.

The functions provided are detailed below.

### **2.2.1 Functions and devices**

The automatic weighing instrument has the following permitted functions and devices that are subject to the Measuring Instrument Directive:

- Automatic zero setting device active during automatic operation ( $\leq 4\%$  of Max).  
At least every 3 h
- Semi-automatic zero-setting device ( $\leq 4\%$  of Max, testing mode only)
- Initial zero setting device (max. 20 % of Max)
- Zero tracking device ( $\leq 4\%$  of Max)
- Preset tare device (subtractive)
- Static calibration (service mode only)
- Extended indicating device (service mode only)
- Belt speed setting, accessible to the user
- Detection of significant fault
- Internal memory for storage of batch data (Category X)
- Label and Comformat (Program) editing (access level higher than operator only)
- Screen check at power up
- Event counters

### **2.2.2 Software identification**

The legally relevant section of the software has its own version number and can be found in the Info page of the Test Window

Approved software versions of the legally relevant software are: 1.1 and 1.2.

The Overall software version is also shown in above window and is in the form w,x.y.z.

The Overall software does not include any legally relevant software.

The firmware boot code software version is also shown in above window and is in the form x.y.z.

The firmware boot code software does not include any legally relevant software.

### 3. Technical data

The automatic weighing instruments is set out as follows:

#### 3.1 9000 series automatic weighing instrument

Type:	9000 series
Accuracy class:	X(III) and Y(a)
Weighing mode:	Dynamic
Weighing range:	Single-interval or multi-interval
Maximum capacity (Max):	$\leq 40,000$ g
Verification scale interval (e):	$e \geq 1$ g
Number of verification scale intervals:	$n \leq 2750$ for single interval $n \leq 2750$ per interval for multi-interval
Minimum capacity (Min):	$\geq 20e$
Maximum preset tare PT:	$PT \leq 450e$ (Single interval) $PT \leq 450e_1$ (multi-interval)
Weighing speed:	<u>Single interval:</u> 100e-1000e: 1.0m/s 0-1500e: 0.8m/s 1501e-Max: 0.6m/s <u>Multi-interval:</u> 100e <sub>2</sub> -1000e <sub>2</sub> : 1.0m/s 0-1500e <sub>2</sub> : 0.8m/s 1501e <sub>2</sub> -Max: 0.6m/s
Temperature range:	0 ° to 35 °C
Minimum voltage per scale interval:	1.87 $\mu$ V/e
Maximum time between automatic zero setting:	3 hours
Electromagnetic class:	E1 and E2
Humidity:	Non-condensing
Load cell excitation voltage:	14VDC
Power supply:	230 VAC 50/60 Hz

### 3.2 Load cells

#### Entry / Mid-range

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

#### Top range

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

#### Heavy range

Maximum Capacity	10/20 kg	5/10/40 kg	10/40 kg	27.5 kg	40 kg
Verification scale interval	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				

Alternately any analogue load cell(s) may be used for instruments under this certificate of type examination provided the following conditions are met:

- 1) There is a respective Part / Evaluation / Test Certificate (EN 45501) or an OIML Certificate of Conformity (R60:2000 or R60:2017) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU
- 2) The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules (WELMEC 2:2015), and any particular installation requirements). A load cell marked NH is allowed only if humidity testing to EN 45501 has been conducted on this load cell.
- 3) The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in the above WELMEC 2 document, or the like, at the time of EU verification or declaration of EU conformity of type.
- 4) The load transmission must conform to one of the examples shown in the WELMEC 2.4 Guide for load cells.

### **3.3 Load receptors**

- The weighing conveyor is a belt conveyor placed on a load receptor with one load cell.

## **4. Interfaces and peripheral equipment**

### **4.1 Interfaces**

The instrument is equipped with the following interfaces.

- Ethernet
- RS232
- Digital I/O
- USB

All interfaces are characterised "Protective interfaces" according to paragraph 8.4 in the Directive.

### **4.2 Peripheral equipment**

Connection between the indicator and peripheral equipment is allowed by screened cable.

The instrument may be connected to any simple peripheral device (e.g. a printer) with a CE mark of conformity.

## **5. Approval conditions**

The instrument is approved for installation in fixed indoor locations.

Printing below Min is not allowed

## **6. Special conditions for verification**

### **6.1 Composition of modules**

None

## **7. Securing and location of seals and verification marks**

### **7.1 Securing and sealing**

Seals shall bear the verification mark of a notified body or alternative mark of the manufacturer according to ANNEX II, module F or D of Directive 2014/32/EU.

#### **7.1.1 Mechanical sealing**

The identification plate shall be secured against removal with a brittle sticker.

#### **7.1.2 Indicator sealing**

The legal relevant parameters are protected by two event counters.

One for the weight calibration and one for all other legal relevant parameters. The values stored in these counters are incremented each time a calibration is performed or any of the legal relevant parameters are altered respectively.

The counters are designated “Calibration Count” and “Configuration Count” and can be viewed in the “Main Menu / System Information”

The values of the counters at initial verifications and any following re-verification shall be written on a brittle label next to the inscription plate.

#### **7.1.3 Load cells and other relevant components**

The load cell is mounted inside metal plate to perform a complete weighing unit.

the assembly of this unit is sealed using wire and seal to prevent exchange of the load cell.

The load cell is connected to the MWS2 weighing module, which is mounted inside the electronic compartment. MWS2 shall be secure against exchange using brittle labels.

Components that may not be dismantled or adjusted shall be secured using brittle labels or wire and seal.



## **8. Location of CE mark of conformity and inscriptions**

### **8.1 Identification plate**

All inscriptions for the instrument shall be placed on the identification plate, which is located on a visible place on the measuring instrument.

#### **8.1.1 CE mark**

CE mark and supplementary metrological marking shall be applied to the inscription plate according to article 21 of Directive 2014/32/EU.

#### **8.1.2 Markings on display**

The following markings shall be permanently shown in or near the display:

- Max, Min, e =

#### **8.1.3 Inscriptions**

Following inscriptions shall be on the identification plate or shown in the display:

- Manufacturer's trademark and / or name
- Manufacturer's postal address
- Type designation
- Serial number
- Max, Min and e=
- Accuracy Class
- Rate of operation (items/hour)
- Maximum conveyor speed
- Temperature range: -10 / +40 °C
- Electromagnetic class: E2
- Humidity: Non-condensing
- Supply voltage
- Type examination certificate number

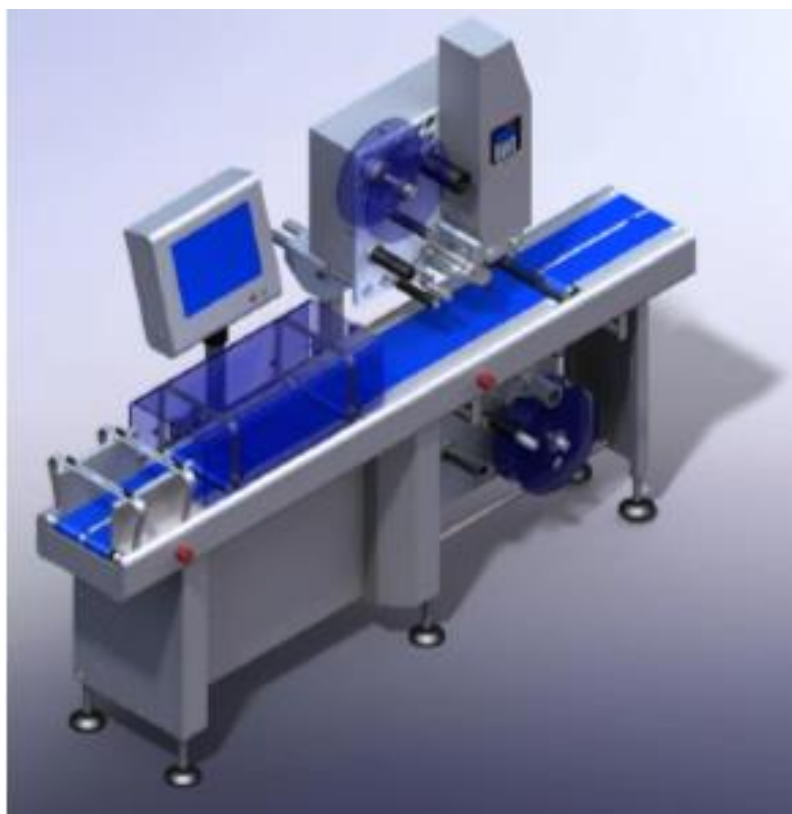
## 9. Pictures



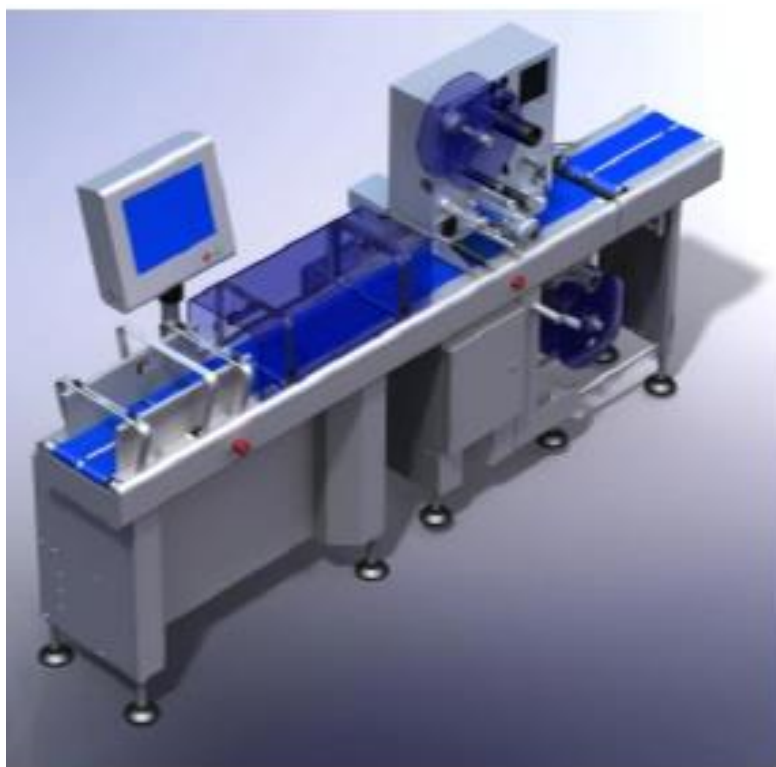
**Figure 1** 9000 series weighing instrument with top labeller



**Figure 2** Example of Display Menu, Running screen



**Figure 3:** Instrument with base labeller mounted



**Figure 4** Instrument with alternative base labeller mounted.



**Figure 5** Wirte and seal sealing method (example)



**Figure 6** Remote Pod (option)



**Figure 7** Model 9500W