

# EU Type Examination Certificate

**No. 0200-MID-05151 Revision 1**

**MCheck2**

**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**  
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United Kingdom

**In respect of**    Automatic check weighing / catch weighing instrument designated MCheck2 with variants of modules of load receptors, load cells and peripheral equipment.  
Accuracy class XIII(1) and Y(a).  
Maximum capacity:  $\leq 6$  kg  
Verification scale interval:  $e \geq 0.5$  g.  
Maximum number of verification scale intervals:  $n \leq 3000$  (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.

**Note: This certificate is a revised edition which replaces previous revisions.**

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

The annex comprises 11 pages.

**Issued on**      **2021-10-19**  
**Valid until**    **2028-12-07**

FORCE Certification references:

Task no.: 121-32869.90.10 and ID no.: 0200-MID-11650-1

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## Descriptive annex

|           | <b>Contents</b>   | <b>Page</b> |
|-----------|---|-------------|
| <b>1.</b> | <b>Name and type of instrument and modules</b>                            | <b>2</b>    |
| <b>2.</b> | <b>Description of the construction and function</b>                       | <b>2</b>    |
| 2.1       | Construction  | 2           |
| 2.2       | Function  | 3           |
| <b>3.</b> | <b>Technical data</b>   | <b>4</b>    |
| 3.1       | MCheck2 automatic weighing instrument                                     | 4           |
| 3.2       | Load cells  | 4           |
| 3.3       | Load receptors  | 5           |
| <b>4.</b> | <b>Interfaces and peripheral equipment</b>                                | <b>5</b>    |
| 4.1       | Interfaces  | 5           |
| 4.2       | Peripheral equipment  | 5           |
| <b>5.</b> | <b>Approval conditions</b>  | <b>5</b>    |
| 5.1       | Connection of cables  | 5           |
| <b>6.</b> | <b>Special conditions for verification</b>                                | <b>5</b>    |
| 6.1       | Composition of modules  | 5           |
| <b>7.</b> | <b>Securing and Securing and location of seals and verification marks</b> | <b>6</b>    |
| 7.1       | Securing and sealing  | 6           |
| <b>8.</b> | <b>Location of CE mark of conformity and inscriptions</b>                 | <b>7</b>    |
| 8.1       | Identification plate  | 7           |
| <b>9.</b> | <b>Pictures</b>   | <b>8</b>    |

## **1. Name and type of instrument and modules**

The automatic catch weighing instrument is an automatic weight labeller (category Y) designated MCheck2 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.

The load receptor may have transport conveyors before or after and a thermal label printer for printing labels with weighing information and other data.

## **2. Description of the construction and function**

### **2.1 Construction**

The instrument is constructed in stainless-steel 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. An electrical cabinet is located behind the weighing conveyor and contains the electrical hardware including display unit, motor controllers and a Marel MWS2 digital weighing unit.

An infeed and outfeed conveyor can be mounted before and after the weighing conveyor.

#### **2.1.1 Indication**

The Marel M3210 touch screen controller is used for displaying information including weighing information and for communication with the operator.

Alternately a Marel M3310 touch screen controller can be used.

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

#### **2.1.2 Electronics:**

The touch 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 digital weighing unit.

The instrument is power supplied from 220 - 240 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 by 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 programs.

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). (Overdue zero message and package rejected at least every 15 min if no zero has occurred.)
- 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)
- 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 Authorities login which is found in this way:

From machine power up:

- Select "Authorities" and when prompted for password enter "1"
- Select the "Info" page view

From the running screen:

- Select the "Back" tab from the top right-hand corner of the display.
- Select "Authorities" and when prompted for password enter "1"
- Select the "Info" page view

Approved software version of the legally relevant software is: 1.1.0

The overall software version is also shown on above pages and is in the form x.y.z. As this software doesn't contain any legal relevant parts the version can be modified freely.

### 3. Technical data

The automatic weighing instruments is set out as follows:

#### 3.1 MCheck2 automatic weighing instrument

|  |   |
|--|---|
| Type:  | MCheck-2  |
| Accuracy class:                              | X(III) and Y(a)   |
| Weighing mode:                               | Dynamic   |
| Weighing range:                              | Single-interval or multi-interval   |
| Maximum capacity (Max):                      | $\leq 6$ kg   |
| Verification scale interval (e):             | $e \geq 0.5$ g for $\text{Max} \leq 1$ kg, and else<br>$e \geq 1$ g   |
| Number of verification scale intervals:      | $\leq 3000$   |
| Minimum capacity (Min):                      | 40g   |
| Maximum preset tare PT:                      | $\text{PT} \leq 23$ % of Gross Max (Single interval)<br>$\text{PT} \leq 23$ % of Gross and $\text{PT} \leq \text{Max}_1$ (multi-interval) |
| Weighing speed:                              | 40 g to 250 g: 0.3 to 1.33 m/s<br>250 g to 1000 g: 0.3 to 1.2 m/s<br>1000 g to 3000 g: 0.3 to 1.0 m/s<br>3000 g to 6000 g: 0.3 to 0.8 m/s |
| Temperature range:                           | 0 ° to 35 °C  |
| Maximum time between automatic zero setting: | 15 minutes  |
| Electromagnetic class:                       | E2  |
| Humidity:                                    | Non-condensing  |
| Load cell excitation voltage:                | 14VDC   |
| Power supply:                                | 220-240 VAC 50/60 Hz  |

#### 3.2 Load cells

The instrument uses one load cell type Flintec PC1 C3 ( $E_{\text{max}} = 30$  kg) located in the center of the weighing conveyor.

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 EC verification or declaration of EC 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
- CAN bus
- 2-wire for reject option

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**

### **5.1 Connection of cables**

The instrument is approved for installation in fixed indoor locations.

## **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.

The counters are designated “Calibration Changes” and “Configuration Changes” and can be viewed as follows:

From machine power up:

Select “Authorities” and when prompted for password enter “1”

Select the “Metrology” tab to view

From the running screen:

Select the “Back” tab from the top right-hand corner of the display.

Select “Authorities” and when prompted for password enter “1”

Select the “Metrology” tab to view

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 weighing module which is mounted inside the electronic compartment. 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
- Type examination certificate number



## 9. Pictures



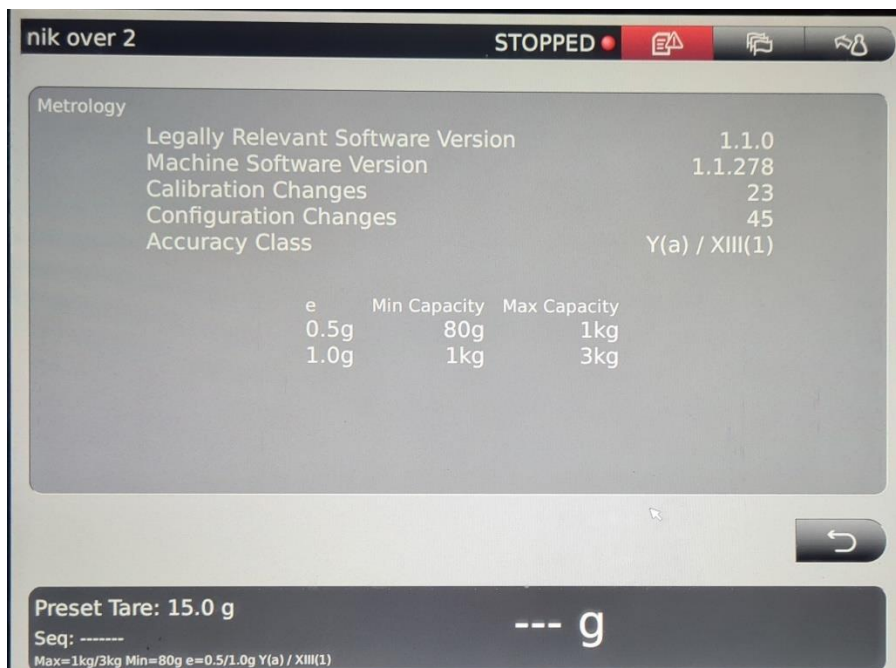
**Figure 1** MCheck2 weighing instrument



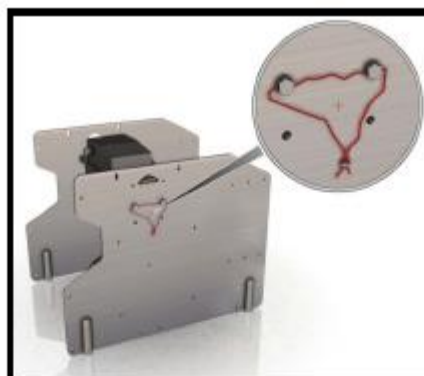
**Figure 2** Example of Display Menu, Running screen



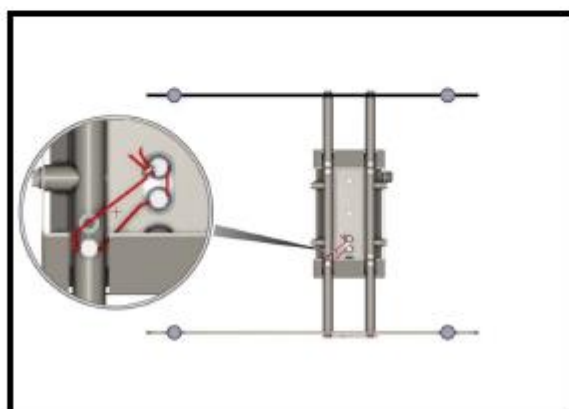
**Figure 3:** Example of Display Menu, Speed Weight limits..



**Figure 4** Example of Display Menu, Software identification and Counter values.



Two screws are drilled through the head so that metal wire can be threaded through the screw.  
The wire is threaded through a slug and crimped.  
Removal of the weigh head mounting bars cannot be achieved without breaking the seal  
(View from base of machine)



The weighing beam is also secured to the mounting bars via a crimped slug.

**Figure 5** Description of load cell sealing



**Figure 5** Remote Pod (option)