NMO	**OIML** Certification System

OIML Member State United Kingdom of Great Britain and Northern Ireland	**OIML Certificate No.** **R51/2006-B-GB1-18.03**

OIML CERTIFICATE ISSUED UNDER SCHEME B

OIML Issuing Authority	**NMO** **Stanton Avenue** **Teddington** **TW11 0JZ** **United Kingdom**
Person responsible:	**Mannie Panesar – Head of Technical Services**
Applicant	**Thermo Ramsey Italia S.R.L.** **Via P. Campanini 11/A 43122** **Parma (PR)** **Italy**
Manufacturer	**The applicant**
Identification of the certified type	**Versa312Y** *(the detailed characteristics are defined in the Descriptive Annex)*

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):

OIML R51, Edition: 2006

For accuracy class: Y(a)

The OIML Issuing Authority

Issue date: 17 September 2018

Grégory Glas
Lead Technical Manager
For and on behalf of the Head of Technical Services

NMO I Stanton Avenue I Teddington I TW11 OJZ I United Kingdom
Tel +44 (0) 20 8943 7272 I Fax +44 (0) 20 8943 7270 I Web www.gov.uk/government/organisations/office-for-product-safety-and-standards
NMO is part of the Office for Product Safety and Standards within the Department for Business, Energy & Industrial Strategy

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. P02018 dated 17 September 2018 that includes 12 pages.

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

No. P02018-D dated 17 September 2018.

OIML Certificate History

Revision No.	Date	Description of the modification
0	17 September 2018	OIML 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

Introduction

This family of instruments, designated the Versa312Y, comprises patterns designed to operate as automatic catchweighing instruments (Category Y). The instruments may be configured as single or multi-range, with a maximum of three weighing ranges.

The instruments comprise a cabinet with user interface, weighing device, mechanical handling facilities and reject device. The instrument is designed to weigh packs dynamically.

Characteristics of the instrument:

Max capacity	7 500 g	15 000 g	30 000 g
Min capacity	1 000 g	6 000 g	14 000 g
Scale interval (e=)	≥ 5 g	≥ 10 g	≥ 20 g
Max number of scale intervals (n)	≤ 1500	≤ 1500	≤ 1500
Temperature range	0 to +40 °C		
Power supply	230 V a.c. 50 Hz		
Accuracy class	Y(a)		
Max speed	50 m/min	50 m/min	45 m/min

Construction:

The instrument is constructed in stainless steel. The framework is a fabricated floor standing stainless steel frame on adjustable feet. On the frame are mounted the modular conveyor sections (in-feed, weigh platform, and out-feed). The conveyors type, number, size and shape are not restricted. The out-feed conveyor can be equipped with one of a number of reject devices, including a flipper, drop flap, ram or air blast. The in-feed or out- feed conveyors may be equipped with quality control system such as photocells, metal detectors or X-rays. The instrument is designed to be permanently installed, a level indicator is located on the main support beam, near the load cell mounting, or on the main support structure of the weighing section.

The cabinet houses the electrical hardware and is located behind the conveyor. A remote cabi-net configuration may also be used. The command signals are sent to the modular conveyor sections including weighing platform via signal cables. A console at the top of the control cabi-net contains a touch screen display. Photocells mounted at either end and either side of the conveyor are used for pack detection.

The system uses photocells to determine when the packs have passed to the weigh platform. The instrument captures the weight when the stability of equilibrium has been reached.

Packs are weighed as they pass over the weigh platform which runs continuously at the match speed of the in-feed and out-feed conveyors.

The instrument stores the individual weights; treaceability between measurement data and packs must be provided in normal operation.

Weighing platform

The weighing platform is as follows:

Weighing System	Bizerba Platform 'iL Professional 150 F/HY'
System type	The load transmission is performed via a lever system to the load cell
Max Capacity	30 - 150 kg
Ratio	1/1.666 – 1/8.333
Load Cell	Bizerba BB-15
Max Capacity (E_{max})	18 kg
Max No of verification scale interval (n_{max})	6000
v_{min}	0.0010 kg
Sensitivity	2.2 mV/V
Material	Stainless-steel

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

- There is a respective OIML Certificate (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 R51(2006) 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 n_{lc}, Y, Z are the same or better that the load cell tested dynamically (Bizerba BB15, E_{max} = 18 kg)
- No oil damper is used.
- The design of the load cells and the material are the same.
- The minimum input voltage per verification scale interval must be less than 0.556 µV.

Electrical

The control cabinet is accessed from a door at the back. Inside are the main board, load cell module, filters, circuit breakers, power supplies, motor drive cards and appropriate input/output modules for external electrical interfaces such as the out-feed mechanisms and external peripherals.

The "Weighing engine" module (part number 308762) comprises a CPU (ARM-Cortex M4 processor based 32-bit 120 MHz – Part number: 1020900NWE002), A/D converter (Analog Devices BlackFin 400 MHz digital signal processor, Part number: 088406). The module is directly connected to the load cell with a 4-wire (optional 6-wire) cable and reads and digitises the analogue load cell signal. The BlackFin reads this digital value and performs digital filtering and processing of the signal to produce the individual pack weight. Weight data is transmitted via internal SPI to the main CPU that executes package classification, statistics and rejecting if requested. The final result is transferred to the HMI via internal Ethernet and SPI-bus networks. The module also controls the conveyor belt motors via CAN bus, and the ejection system via BIO-bus or through on board I/O.

The control and display interface (HMI) comprises of a PC running Microsoft Windows 7. It includes a touch screen type 10.4 (diagonal) XGA (1024 x 768 resolution) colour backlit LCD touch screen display, and allows configuration of the system and its monitoring.

Devices:

- Automatic zero setting at least once every 15 minutes if no zero-tracking occurred
- Zero-tracking (≤ 4% Max)
- Semi-automatic zero-setting (≤ 4% Max)
- Initial zero-setting (≤ 20% Max)
- Zero-indicating
- Pre-set tare device (subtractive)
- Single or multi-range operation
- Static calibration, not accessible to the user
- Belt speed setting (dynamic calibration), not accessible to the user after sealing
- Screen check at power-up
- High resolution mode (0.1e) for testing purposes, not accessible to the user after sealing

Software:

The general software is designated V312, the legally relevant module is designated MIDModule/DataProcessing/Controls Modules. These software designations are shown in Menu \ Tools \ Versions and can also be displayed at any time upon command. The software is held in the Weighing Engine and partially on the HMI, and can only be changed at factory level via Ethernet.

Verification information is as below:

The software version number is designated   AA.SS.MM.mm (i.e. 43.00.01.00), with:

- AA – identifies the software application / module.
- SS – custom made version / dedicated versions.
- MM – major release.
- mm – minor release.

The legally relevant software modules are detailed in the following table, together with version number and verification checksum:

V312Y Standard Application 43.00.01.XX

Designation	Version number	Checksum
MID	100.00.02.XX	4000DE8A
Data Processing	32.00.02.XX	4000DE8A
Controls	35.00.02.XX	4000DE8A
WE Software	13.00.01.XX	9431B1CC
DSP Software	95.00.01.XX	A1AEEBC8

Access to the legally relevant part of the software is protected by a jumper inside the cabinet, located within the sealed Weigh Engine. The jumper needs to be removed to modify any legally relevant parameter and can only be done at factory level.
Static and dynamic calibrations of the instrument also require the jumper to be removed.
The HMI software is protected by comparing the CRC checksum value with the pre-stored value in the internal flash memory on the WE. Mismatched CRC values prevents the WE to be operative.

Interfaces

- Ethernet
- USB
- RS232

Approval conditions

The instrument shall bear the inscriptions required by the national and regional legislations.

The instrument is designed to be permanently installed.

Traceability between measurement data and packs must be provided in normal operation.

Sealing

Components that may not be dismantled or adjusted by the user (load cell, A/D board, calibration jumper) are located behind a metallic cover protected by either a wire and seal or tamper evident label and securing mark. The integrated USB storage shall also be sealed.

The sealings must bear an official mark, which may be either:

- a mark of the manufacturer and/or manufacturer's representative, or
- an official mark of a verification officer.

Alternatives

There are currently no authorised alternatives.