



Nederlands Meetinstituut

Test certificate

Number **TC6490** revision 3

Project number 604987

Page 1 of 5

Issued by NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Notified Body Number 0122

In accordance with Paragraph 8.1 of the European Standard on Metrological aspects of non-automatic weighing instruments EN 45501:1992/AC:1993 and the Welmec guide for testing indicators (Welmec 2.1, August 2001).

Applicant Dibal S.A.
Astinze Kalea, 24-Pol. Ind. Neinver
48160 Derio (Bilbao-Vizcaya)
Spain

In respect of The model of an **indicator**, tested as a part of a weighing instrument (for non-automatic weighing instruments class **III** and **III**).
Manufacturer : Dibal
Type : VD-3xx

Characteristics Electronic, self-indicating device, with single or multi-interval indication.
The maximum number of verification scale intervals will be:
 $n \leq 10000$ for class **III** instruments.
 $n \leq 1000$ for class **III** instruments.

In the description number TC6490 revision 3 further characteristics are described.

Description and Documentation The instrument is described in the description number TC6490 revision 3 and documented in the documentation folder number TC6490-3, appertaining to this test certificate.

Remarks Summary of the test involved: see Appendix number TC6490 revision 3.

This revision test certificate replaces the earlier versions, including its documentation folder.

Dordrecht, 16 June 2006
NMI Certin B.V.


Ing. C. Oosterman
Manager Product Certification

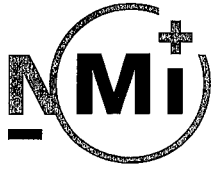
Nederlands Meetinstituut
Hugo de Grootplein 1
3314 EG Dordrecht
Telephone +31 78 6332332
Telefax +31 78 6332309

NMI B.V.
(Chamber of Commerce no.27.228.701)

Subsidiary companies:
NMI Van Swinden Laboratorium B.V. (27228703)
NMI Certin B.V. (27.233.418)
Verispect B.V. (27.228.700)

This document is issued under the provision that NMI. B.V. nor its subsidiary companies accept any liability.

Reproduction of the complete document is allowed. Parts of the document may only be reproduced after written permission.



1 General information about the indicator

All properties of the indicator, whether mentioned or not, may not be in conflict with the standard mentioned in the test certificate.

1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Mono board lay-out Mono board production file	030160 VD300 - Mono board	- A0	- 2 pages.
CPU VD330 VD-330 CPU parts list	60201 Dibal-VD330CPU-PL	C -	- 2 pages.
Load cell expander lay-out	030180	-	-
Load cell expander production file	VD300 - Expander	A0	-

EMC protective measures:

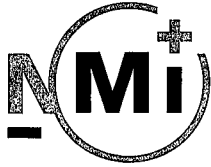
- Net filter, type FA-6Z.

1.2 Essential characteristics

The applied error fraction p_i is 0.5.

List of devices:

- Zero indicator;
- Semi-automatic zero-setting;
- Initial zero-setting;
- Zero-tracking;
- Semi-automatic subtractive tare balancing;
- Indication of stable equilibrium;
- Calibration / set-up mode via a switch on the main board;
- Acting upon significant faults;
- Checking the display;
- Check weighing mode;
- Changing from Net to Gross, following a manual command for no longer than 5s;
- Changing from kg to lb (only for the countries where the use of lb is allowed and complying with the requirements of the country where the instrument is taken into service);
- Displaying calculated weight in lb, following a manual command for no longer than 5s;
- Linearity compensation: the linearity can be compensated to a maximum of 2 points for each connected platform;
- Platform select with indication of selected platform.



Connections:

- Power supply:
 - 230 V AC, 50/60 Hz to 10-16 V DC adapter, or;
 - Lead-acid battery 6 V DC, 4 Ah.
- The minimum value allowed for the signal voltage per verification scale interval is 1 μ V;
- The excitation power supply for the load cell is 5V DC;
- The minimum input impedance of the load cell is 29 Ω ;
- The maximum input impedance of the load cell is 1050 Ω ;
- When used as a 4-wire system, the load cell(s) shall be connected directly to the indicator;
- When used as a 6-wire system with remote sensing, no special cable length has to be provided for the connection between the indicator and the junction box or load cell(s).

Platforms select:

- The connected load cells can be separately digitized in two groups;
- Each platform shall meet the above specifications.

Metrological relevant software:

- The metrological software version has the identification number: OINL1.0;
- This software part contains all metrological functions for processing most essential information/data;
- The identification number is displayed at start-up.

1.3 Essential shapes

The indicator is built according to the drawings:

- "Vision VD-310/Indicator", drawing number 4528800;
- "Visor VD-310/Indicator", drawing number 4528600;
- "Visor VD-310/Indicator", drawing number 4528100 (2 pages);
- "VD-330 CW2 INOX", drawing number EVD018 (2 pages);
- "VD-330CW2 ABS", drawing number EVD028 (2 pages);
- "VD-330CW Ethernet Inox Bat.", drawing number EVD029 (2 pages).

The data plate is secured against removal by sealing or will be destroyed when removed and contains the following information:

- This test certificate number TC6490;
- Manufacturers name or mark.

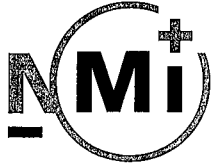
To secure components that may not be dismantled or adjusted by the user, the indicator has to be secured in a suitable manner on the locations indicated in the drawing:

- "Precintos visor VD-300", drawing number PL-40673;
- "Precinto VD-310 Inox", drawing number PL-40749;
- "Load cell sealed". Drawing number PL-40796.

The securing component has to bear either:

- A mark of the manufacturer laid down in a notified body approved quality system (Annex II of the Directive 90/384/EEC), or;
- An official mark of a Member State of the EEC, or another party to the EEA agreement.

Inside the cabinet is a calibration switch, located on the main board.



1.4 Conditional parts

The interface section is located on the main board and/or on separate interface boards. The indicator may be equipped with one or more of the following protective interfaces that have not to be secured:

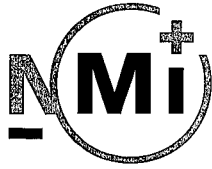
- RS232C;
- RS485;
- Digital I/O, 16 bits, 0 – 24 V;
- Analogue I/O, 4-20 mA, 0 – 10 V, 0 – 5 V;
- Ethernet (client only).

1.5 Conditional characteristics.

- Set points;
- Indication of selected set point(s).

1.6 Non-essential parts

- Display;
- Keyboard.



Tests carried out for this test certificate on the Dibal indicator, types VD-300/ VD-310/ VD-330:

Test	Type or version	Institute
Temperature effect on the sensitivity with minimum weighing range and input impedance of 29Ω. (20, 40, -10, 5 and 20 °C)	VD-300	NMi Certin B.V.
Temperature effect on the no load indication with minimum weighing range and input impedance of 29Ω. (20, 40, -10, 5 and 20 °C)	VD-300	NMi Certin B.V.
Damp heat, steady state	VD-300	NMi Certin B.V.
Repeatability	VD-300	NMi Certin B.V.
Warm-up time	VD-300	NMi Certin B.V.
Span stability	VD-300	NMi Certin B.V.
Checklist	VD-300	NMi Certin B.V.
Cable length between the indicator and load cell	VD-300	NMi Certin B.V.
Stability of equilibrium	VD-300	NMi Certin B.V.
EMC tests are performed with a load cell impedance of 350Ω		
Power voltage variation	VD-300/ VD-310/ VD-330	NMi Certin B.V.
Short time power reduction	VD-300/ VD-310/ VD-330	NMi Certin B.V.
Electrical bursts	VD-300/ VD-310/ VD-330	NMi Certin B.V.
Electrostatic discharges	VD-300/ VD-310/ VD-330	NMi Certin B.V.
Electromagnetic susceptibility	VD-300/ VD-310/ VD-330	NMi Certin B.V.