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EC Type Examination Certificate

DK0199.357 revision 1

ECOSELF

AUTOMATIC GRAVIMETRIC FILLING INSTRUMENT

Issued by DELTA Danish Electronics, Light & Acoustics
EU - Notified Body No. 0199

In accordance with the requirements for the automatic weighing instruments in Directive 2004/22/EC of the European Parliament and Council of March 31, 2004 on Measuring Instruments (MID).

Issued to **Lanzi Snc.**
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Italy

In respect of An automatic gravimetric filling machine designated **ECOSELF** with 4 independent aut. gravimetric filling instruments variants of modules of load receptors, load cells, and peripheral equipment.
Accuracy class X(1)
Maximum capacity: Max = 3000 g
Verification scale interval for the filling instrument: $d = 1$ g
Number of verification scale intervals: $n = 3000$
Minimum filling: MinFill = 1000 g
Maximum filling: MaxFill = 2000 g
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 MI-006, chapter I & III of the Directive 2004/22/EC is met by the application of OIML R61-1:2004, section 12 & 13 of OIML D11:2004, WELMEC Guide 7.2:2011, and WELMEC Guide 8.16-2:2006.

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 9 pages.

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Descriptive annex

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1. Name and type of instrument and modules

The automatic gravimetric filling machine designated ECOSELF and manufactured by Lanzi Snc. is intended for dispensing liquid soap into a plastic bottle. It is a self-service automatic weighing instrument for directly sale to the public. The machine has four identical filling stations for different soap products, but only one filling station can be active at a time.

The name of the machine may be followed by alphanumeric characters for technical, legal or commercial characterisation of the instrument.

The filling stations are self-indicating filling instruments with single-interval and connected to a common plc-based touch screen with interface to coin box and printer.

The modules appear from Sections 3.1, 3.2, and 3.3.

2. Description of the construction and function

2.1 Construction

2.1.1 Touch screen

The user interface of the ECOSELF is realized with a plc-based touch screen allowing the user to select one of four products, the amount of the product (1 kg or 2 kg) and to pay the price of the product by coins. It sends amount to the WDOS controller for the selected product and checks for acceptable bottle weight, before automatic tare is performed and WDOS is allowed to start filling. When the filling is finished the plc prints a label with product and amount and change is given, if any.

The plc uses a RS485 I/F for communication with the four WDOS weighing controllers.

2.1.2 WDOS weighing controller

Each filling station of the filling machine has a WDOS weighing controller from Laumas with a connected load receptor platform.

Evaluation certificate DK0199-R61-12.04 is issued for WDOS as a weighing controller for automatic gravimetric filling machines.

2.1.3 Load cells

Set out in Section 3.3.

2.1.4 Load receptor

Set out in Section 3.4.

2.1.5 Interfaces and peripheral equipment

Set out in Section 4.

2.2 Functions

2.2.1 Functions and devices

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

- Initial zero setting device (max. 20 % of Max)
- Automatic zero-setting device
- Automatic tare balancing device

2.2.2 Software

The software version of the touch screen for user interface is displayed at start-up.
The examined software version is 1.00.

The software version of the weighing controller is displayed at start-up of the controller.
The format for the software version is x.yy.zz, where x is the legal version number, yy is a sub-revision number for software changes not related to the legal functionality of the software, and zz is a sub-revision number used for error corrections.
The approved software version is 1.yy.zz

3. Technical data

The automatic weighing machine and its modules are set out as follows:

3.1 ECOSELF automatic gravimetric filling machine

| | |
|---|-------------------------|
| Type: | ECOSELF |
| Reference class: | 1 |
| Accuracy class: | 1 |
| Maximum fill (MaxFill): | 2000 g |
| Minimum fill (MinFill): | 1000 g |
| Maximum capacity (Max): | 3000 g |
| Minimum capacity (Min): | 20 g |
| Verification scale interval (d): | 1 g |
| Weighing range: | Single-interval |
| Number of Verification Scale Intervals (n): | 3000 |
| Maximum tare effect: | 300 g |
| Extra warm-up time: | 18 minutes |
| Temperature range: | -10° to +40° C |
| Electromagnetic class: | E2 |
| Humidity: | Non-condensing |
| Automatic zero-setting: | For each weighing cycle |
| Mains power supply: | 230 VAC, 50 Hz 60 Hz |
| Peripheral interface: | Set out in Section 4 |

3.2 WDOS weighing controller

| | |
|--|---|
| Reference class: | 0.2 |
| Weighing range | Single-interval, multi-range or multi-interval (2 or 3) |
| Maximum number of verification scale intervals (n) | 10000 |
| Minimum input voltage per VSI | 0.2 μ V |
| Maximum capacity of interval or range (Max _i): | $n_i \times e_i$ |
| Verification scale interval, e _i = | Max _i /n _i |
| Initial zero-setting range: | ± 10 % of Max |
| Maximum tare effect: | 100 % of Max |
| Fractional factor (pi) | 0.5 |
| Excitation voltage | 5 VDC |
| Circuit for remote sense | Active, (see below) |
| Minimum input impedance | 43 ohm |
| Maximum input impedance | 1200 ohm |
| Connecting cable to load cell(s): | See Section 3.1.1 |
| Supply voltage: | 12 - 24 VDC, or 230 VAC |
| Operating temperature range: | -10° C to +40° C |

3.3 Load cells

All load cells of a ECOSELF filling machine are identical.

3.3.1 Load cells

The load cell (listed below) is certified as a module in the weighing instrument.

| Manufacturer | Load cell type | Capacity | V _{min} | Test certificate |
|--------------------|----------------|----------|------------------|------------------|
| Laumas Elettronica | AZL | 10 kg | 1 g | D09-07.51 |

3.3.2 General acceptance of load cells

Any load cell(s) may be used for instruments under this certificate of type approval provided the following conditions are met:

- 1) A test certificate (EN 45501) or a respective OIML Certificate of Conformity (R60) is issued for the load cell by a Notified Body responsible for type examination under the Directive 90/384/EEC.
- 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, Issue 5, 2009), 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.

3.4 Load receptors

Each weighing unit of the automatic weighing instrument has a platform load receptor.

| | |
|-----------------------|---|
| Construction in brief | Stain-less steel |
| Reduction ratio | 1 |
| Number of load cells | 1 |
| Junction box | None |
| Load cells | According to Section 3.3.1 or Section 3.3.2 |

3.5 Composition of modules

In case of composition of modules, EN 45501 paragraph 3.5 and 4.12 shall be satisfied.

3.6 Documents

The documents filed at DELTA (reference No. T202859) are valid for the weighing instruments described here.

4. Interfaces

The following interfaces are incorporated. The interfaces are protective and need not to be secured.

- RS485 – for internal communication between touch screen computer and WDOS weighing controllers
- RS232 – for internal connection to built-in printer
- Dig. I/O - for internal connection to coin box.

There are no interfaces for external connection.

5. Approval conditions

5.1 Compatibility of modules

In case of composition of modules, WELMEC 2 (Issue 5) 2009, paragraph 11 shall be satisfied.

6. Special conditions for verification

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 according to ANNEX F of the Directive 2004/22/EC or alternative mark of the manufacturer according to ANNEX D of the Directive 2004/22/EC.

7.1.1 Plc-based touch screen

The software of this unit cannot influence the metrological characteristic of the filling machine and need not to be secured.

7.1.2 WDOS weighing controller

7.1.2.1 Securing and sealing of WDOS

The calibration and configuration parameters as well as the software of WDOS are secured by a non-resettable event counter. The current values of the event counter of a WDOS can be displayed upon request, when the keyboard of WDOS is accessible.

To indicate the sealed status of the event counter, the inscribed count of the event counter is written on the inscription plate or on a label placed on the inscription plate or next to it.

The event counter's label is sealed by partially covering it with an official sealing label.

The enclosure of WDOS shall be sealed against opening (see figure 2).

The front of WDOS shall be covered by a transparent plate prohibiting access to the keyboard of WDOS.

7.1.2.2 Sealing of WDOS connections

Sealing of the connection of the load cell to the indicator is done with two brittle stickers. One covering the screw terminals of the connector and one placed on both the fixed and the removable part of the connector.

7.1.3 Peripheral interfaces

All peripheral interfaces are "protective". They neither allow non-traceable manipulation with weighing data or legal setup, nor change of the performance of the weighing instrument in any way that would alter the legality of the weighing.

7.2 Verification marks

A metrological M-sticker and a sticker with verification mark are to be placed on the identification plate of the ECOSELF filling machine.

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 shall be located on a visible place on the instrument.

8.1.1 CE mark and metrological M

A CE mark of conformity and year of production grouped together with space for the metrological M shall be located on the identification plate.

8.1.2 Inscriptions

The identification plate shall bear the following inscriptions:

- Manufacturer's trademark and / or name
- Type designation
- Serial number
- Reference accuracy class Ref(1)
- Accuracy class X(1)
- Type examination certificate number
- Maximum fill (MaxFill =)
- Minimum fill (Minfill =)
- Maximum capacity (Max =)
- Minimum capacity (Min =)
- Verification scale interval (d =)
- Temperature range: -10 / +40 °C
- Electromagnetic class: E2
- Humidity: Non-condensing
- Supply voltage
- For each filling station:
 - Serial number of indicator
 - Event counter values for indicator
 - Serial number of load cell

9. Pictures



Figure 1: ECOSELF automatic soap dispenser with four filling stations.

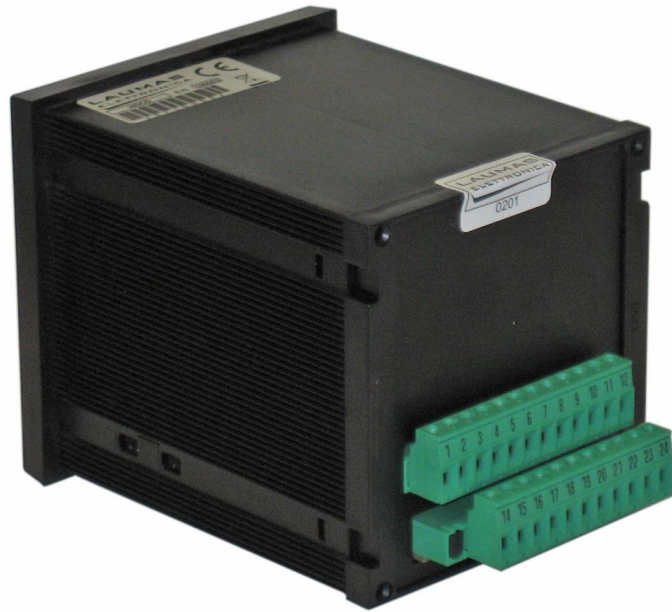


Figure 2 Sealing of WDOS weighing controller.

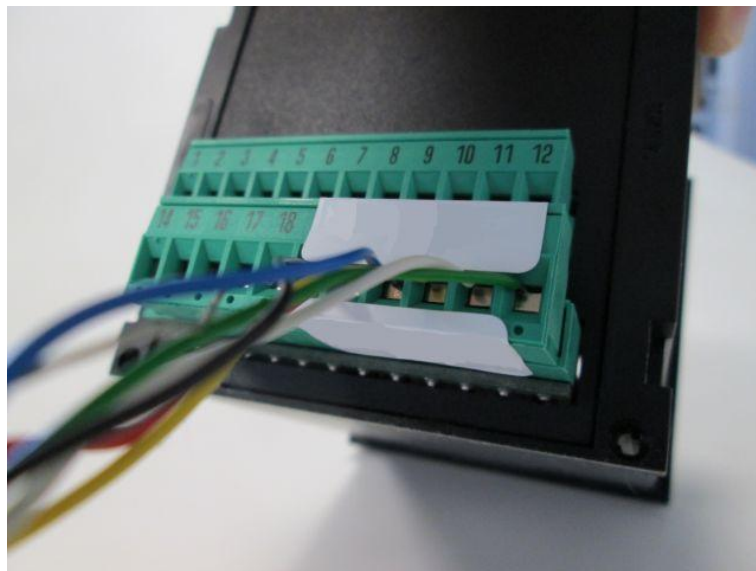


Figure 3 Sealing of the connection of the load cell to WDOS.