Office for Product Safety & Standards

2999

III(5)b

Pursuant to Section 12 of the Weights and Measures Act 1985

Certificate No 2999 Revision 1

Issued by:

The Office for Product Safety and Standards

In accordance with the provisions of Section 12 of the Weights and Measures Act 1985, the Secretary of State for Business and Trade has issued this UK national type-approval certificate to:

BARTEC BENKE GmbH
Schulstraße 30
D-94239 Gotteszell
Germany

And hereby certifies as suitable for use for trade the following pattern of a measuring instrument, in respect of an electronic road tanker level gauge type Volutank 3003.

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

Under the provisions of section 12(5) of the said Act, this certificate is subject to the conditions described in the descriptive annex.

Note: This certificate relates to the suitability of the equipment for use for trade only in respect of its metrological characteristics. It does not constitute or imply any guarantee as to the safety of the equipment in use for trade or otherwise.

This revision replaces previous versions of the certificate.

Issue Date: **22 September 2025**
Valid Until: **22 September 2035**

Signatory: Gillian McEneff, Head of OPSS Testing Laboratories

For and on behalf of: Secretary of State

CERTIFICATION NO 2999

Descriptive Annex

1 INTRODUCTION

The Volutank 3003 is an automatic tank level gauge which measures the level in an horizontal tank, with compensation for the angle, in x- and y-direction, with respect to the horizontal. During normal operation, the volume is presented on the indicating device. (Examples shown in Figure 1). This volume is derived from measured level. When no delivery is pending the level can be monitored using the diagnosis screen.

2 CONSTRUCTION

2.1 Parts

The main metrological parts are shown in table 1 examples are shown in Figure 2. All parts are manufactured by Bartec GmbH.

Part	Type	Documentation number
Basic module containing the following boards (all or part of those listed may be present):	6932-x	8038/0-01 and -02
CPU board	6932-103	8038/0-04, -05 and -06
Communication board	6932-102	8038/0-07 and -08
I/O board	6932-101	8038/0-09 and -10
Power supply board	6932-10x	8038/0-11 and -12
HMI Ex interface board	6932-104	8038/0-13 and -14
Dipstick interface	6932-110	8038/0-15
Dipstick interface	6932-114	8038/1-01 and -02
I-Box Interface (plus)	6932-112 (109)	8038/0-16 and -17
Inclination sensor	6902-11	8038/0-18
Display and operating unit	6922-10	8038/0-19 and -20
Display and operating unit	6922-11	8038/0-21 and -22
Dip stick	6706-10/x	8038/0-23
I-Box Namur	6912-11	8038/0-24 and - 25
I-Box Namur plus	6912-12	8038/0-26 and - 27

2.2 Additional Main Parts

2.2.1 Printing device; make Bartec GmbH; type 6881-1 or 6881-3x or 6863-x.

Note: The above-specified printing devices were used tor testing; however, any CE or UKCA marked printing device communicating via a serial RS232-link or via the P-net protocol may be used

2.2.2 Wet leg sensor; make Bartec GmbH; type 6729-23 or Bartec type 6902-12;

2.2.3 Temperature sensor; make Bartec GmbH; type 6702-3x;

2.2.4 Sensor for detection of remaining volume.

2.3 Configuration

2.3.1 Level, temperature and angle indication.

When no delivery is pending, level and angle can be monitored using the diagnosis screen.

2.3.2 Position of the temperature sensors in the hose connection pipes.

2.3.3 Volume and temperature indication.

2.3.4 Ticket lay out.

This is user configurable; W&M relevant settings however are protected by the Weights & Measures switch. Refer to the parameter setting for detailed information. On the ticket a unique ticket identification and product volume shall be presented; product temperature may be presented.

2.3.5 Sealing of the Weights & Measures switch

When the Weights & Measures switch is in the sealed position legal parameters cannot be altered.

.

2.4 Error messages.

If a measured value is non-legal and/or a technical problem occurs an error message is presented on the connected indicating device.

For detailed information refer to manuals for the liquid level sensor and for the indicating device.

2.5 Weights and Measures parameters

The following parameters are accessible after opening the Weights & Measures switch. When this switched is opened on the default display a flashing E is visible.

Parameter	Setting
Clear save RAM data	Not a setting; read only.
Programming configuration. Volume information, product information and the unique ticket information are always protected.	
Product data: reference density. Remark: Either the reference density is protected, or it is obligatory and protected that the density is printed on the ticket.	Correct value, in kg/m^3, or correct ticket setting.
Metrological products: reference temperature.	15 °C
Metrological products: compensation method.	Correct mode.
Metrological products: compensation on / off.	Depending on the application. To be set and accounted for by the manufacturer or his representative(s).
Peripherals / Hardware configuration	
All connected system parts (i.e. dip stick, dip stick interface, I_Box Namur, temperature sensor) are switched on or off and are characterized.	To be set and accounted for by the manufacturer or his representative(s).
Seal parameters	
Temperature sensor; R at 0 ohm.	Correct resistance value.
Temperature sensor; R at 50 ohm.	Correct resistance value.
Product settings	Same as under programming configuration.

3 SOFTWARE

3.1 Software versions and checksums

Software module	Function	Software version	Checksum
m-srt	Measurement of product temperature check of temperature sensor and measurement hardware enclosure and check of relevant parameters and temporary data	1.0.0	5c26a5
		1.1.0	517d03

m-dipstick[1]	Measurement, evaluation and supervision of filling level measurement, evaluation and supervision of inclination angle and check of relevant parameters and temporary data.	1.1.0	7a5402
		1.2.0	5ca939
		1.3.0	a78f98
		1.4.0	d800f2
		1.5.0	7dc451
		1.6.0	151c62
		1.8.0	2303DE
m-tmup	Temperature conversion Enclosure and check of relevant parameters and temporary data	1.0.7	0de79b
		1.1.0	A221E9
lib3003db	General data storage General data protection Long term storage	1.1.0	aab9e7

Software module	**Function**	**Software version**	**Checksum**
m-hmi	Indication of data Filter to check the indication of non legally relevant data	1.1.1	3b356a
		1.3.0	9f71f2
		1.4.0	6CB819
emf / emfx	Administration of SW-modules Data transfer between SW-modules Check of regular program processing	1.0.14	37d2c2
umg	Download management SW-identification Generation of checksums and check of integrity of legally relevant SW-modules	1.2.0	21932d
m-print	Printer administration Printer management	1.1.0	66d7c0
		1.2.0	b00aac
		1.4.0	03ebe3
		1.5.0	9985a2
m-kmif_ex[2]	Auxiliary counter "Tiger"	1.0.0	188c57
		1.1.0	3bc5ae
		1.2.0	821fa4
m-bridging[3]	Collector loading/unloading	1.0.0	b8a0c8

Notes:

[1] If a collector is installed, only this version or higher may be used. Versions 1.0.0 to 1.5.0 are not allowed with collector.

[2] Module is only loaded if the TIGER parameter is "ON".

[3] Module is only loaded if the BRIDGING parameter is “ON”.

3.2 The software fulfils the demands of the Welmec 7.2 (2025) Type P, Extensions L, T, S and D. Type U is not applicable.

3.3 Correction of the dipstick measured level on the basis of the measured angle deviation, with respect to the horizontal.

3.4 Volume determination at actual product temperature, on the basis of the measured level.

3.5 Volume determination at reference product temperature.

3.6 Automatic correction of the float's submerged level, on the basis of the user selected product.

3.7 Facility tor density measurement.

3.8 Error messages, both on the display and on the ticket, when approved measurements are disturbed.

3.9 Access to the Weights & Measures switch is secured with a Weights & Measures seal to protect the Weights & Measures parameters against unauthorized alterations. When the Weights & Measures switch is in the sealed position the Weights & Measures parameters cannot be changed.

4 MARKINGS

The nameplate is secured by a Weights & Measure stamp. The following information shall be shown:

- Manufacturer's name or logo.
- The Certificate Number 2999.
- The identification of the measuring tank onto which the liquid level gauge is mounted

Note: The name plate may also contain inscriptions as demanded by the regulations for measuring tanks, i.e. the compartment identification and the minimum measured quantity of each compartment.

5 SECURING AND SEALING

5.1 The Weights & Measures switch operating key, on the outside of the indicating and operating device's enclosure, is sealed (Figure 3).

5.2 The printed circuit board within the indicating and operating device's enclosure that contains the Weights & Measures Switch is sealed against unauthorized movement or removal, or the indicating and operating device's enclosure is sealed against unauthorized opening (Figure 3).

5.3 The enclosure with the angle measurement device is sealed against unauthorized opening.

5.4 The mounting of the enclosure with the angle measurement device to the tank construction itself is sealed against unauthorized changing of the position.

5.5 Seal of the dipstick module in the basic module against unauthorized removal or disconnecting dip sticks and angle measurement device; see Figure 4.

5.6 The liquid level sensor (dip stick) is sealed to the tank top.

5.7 The nameplate is sealed.

5.8 The I-Box Namur plus is sealed against unauthorized opening.

6 ILLUSTRATIONS

Figure 1 Display and operating units
Figure 2 Main components
Figure 3 Indicating and operating device sealing
Figure 4 Sealing of basic modules

7 CERTIFICATE HISTORY

<table>
<tr><th>ISSUE No.</th><th>DATE</th><th>DESCRIPTION</th></tr>
<tr><td>2999</td><td>30 October 2014</td><td>Certificate first issued.</td></tr>
<tr><td>2999 Revision 1</td><td>22 September 2025</td><td>Certificate renewed on 22 September 2025 (previous version of the certificate expired on 29 October 2024).

Section 2.2.1: UKCA marked printing device added.

References to NMO replaced with references to OPSS.

Section 3.1: addition of the following modules:
<table>
<tr><td>m-dipstick</td><td>1.5.0</td><td>7dc451</td></tr>
<tr><td></td><td>1.6.0</td><td>151c62</td></tr>
<tr><td></td><td>1.8.0</td><td>2303DE</td></tr>
<tr><td>m-tmup</td><td>1.1.0</td><td>A221E9</td></tr>
<tr><td>m-hmi</td><td>1.3.0</td><td>9f71f2</td></tr>
<tr><td></td><td>1.4.0</td><td>6CB819</td></tr>
<tr><td>m-print</td><td>1.4.0</td><td>03ebe3</td></tr>
<tr><td></td><td>1.5.0</td><td>9985a2</td></tr>
<tr><td>m-kmif_ex</td><td>1.0.0</td><td>188c57</td></tr>
<tr><td></td><td>1.1.0</td><td>3bc5ae</td></tr>
<tr><td></td><td>1.2.0</td><td>821fa4</td></tr>
<tr><td>m-bridging</td><td>1.0.0</td><td>b8a0c8</td></tr>
</table>
Notes added below the table in Section 3.1.

Section 3.2: version of Welmec guide specified (2025).</td></tr>
</table>

Fig. 35 Display and operating unit type 6922-11

Fig. 36 Display and operating unit type 6922-10

Figure 1 Display and operating units

Basic module with slide-in modules (maximum expansion stage)

Fig. 38: Inclination sensor type 6902-11

Fig. 39: Printer type 6863-2x

Fig.40: Printer type 6881-3x

Fig. 41: I-box NAMUR (plus) type 6912-1x

Figure 2 Main components

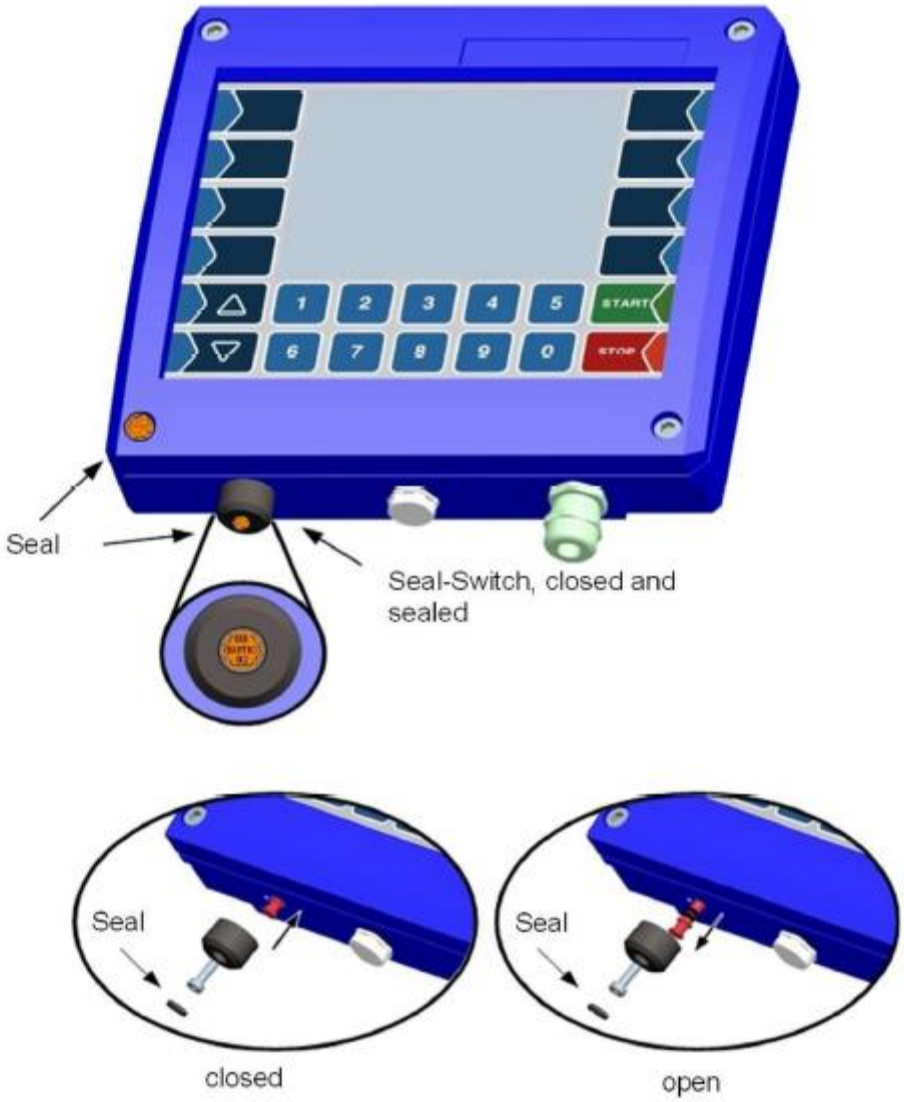

Figure 3 Indicating and operating device sealing

Figure 4 Sealing of basic modules