IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx TUN 17.0006X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2017-07-25** Page 1 of 3	
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113, 77761 Schiltach **Germany**	
Equipment: *Optional accessory:*	**Capacitive continuous level measurement sensors VEGACAL CL6*.GI ***X/H****	
Type of Protection:	**Intrinsic safety "i", equipment dust ignition protection by enclosure "t"**	
Marking:	Ex ia/tb IIIC TX °C Da/Db resp. Ex ia tb IIIC TX °C Db	
Approved for issue on behalf of the IECEx Certification Body:	Andreas Meyer	
Position:	Head of Certification Body	
Signature: *(for printed version)*		
Date:	2017-07-25	

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0006X

Date of Issue: **2017-07-25** Issue No.: **0**

Manufacturer: **VEGA Grieshaber KG**
Am Hohenstein 113, 77761 Schiltach
Germany

Additional Manufacturing location(s):
VEGA Americas, Inc.
4241 Allendorf Drive
Cincinnati, Ohio 45209
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/TUN/ExTR17.0020/00

Quality Assessment Report:

DE/TUN/QAR06.0002/07

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 17.0006X

Date of Issue: **2017-07-25** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The capacitive continuous level measurement sensors type VEGACAL CL6*.GI ***X/H**** are used for monitoring or control of filling levels in explosion hazardous areas.
The apparatus may be operated in explosion hazardous dust atmospheres.

Mechanical basic execution of the electrodes:

Type	Electrodes
VEGACAL CL62	partly insulated rod electrode
VEGACAL CL63	fully insulated rod electrode
VEGACAL CL64	fully insulated rod electrode for viscous and adherent filling materials
VEGACAL CL65	partly insulated cable electrode
VEGACAL CL66	fully insulated cable electrode

For technical and all other data refer to attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. At the plastic parts of the capacitive level switches there is a danger of ignition by electrostatic discharge. Charge generating processes have to be avoided there.

2. The cable entries and blanking elements in the housing have to be suitably certified for an operating temperature range of -40 °C to 80 °C or the cable entries and blanking elements of the manufacturer have to be used.

3. At risks by pendulum or vibration the respective parts of the level switches have to be secured effectively against these dangers.

4. The max. surface temperature for higher temperatures T_{med} = 65 °C has to be taken from the "Thermal data" mentioned above and from the manual of the manufacturer.

Annex: Attachment_VEGACAL_TUN17.0006X.pdf

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

The capacitive continuous level measurement sensors type VEGACAL CL6*.GI ***X/H**** are used for monitoring or control of filling levels in explosion hazardous areas.
The apparatus may be operated in explosion hazardous dust atmospheres.

Mechanical basic execution of the electrodes:

Type	Electrodes
VEGACAL CL62	partly insulated rod electrode
VEGACAL CL63	fully insulated rod electrode
VEGACAL CL64	fully insulated rod electrode for viscous and adherent filling materials
VEGACAL CL65	partly insulated cable electrode
VEGACAL CL66	fully insulated cable electrode

Electrical data

Type VEGACAL CL6*.GI ***X**

Supply and signal circuit (Terminals Kl1[+], Kl2[-] in the housing for the electronics resp., in the execution with the 2 chamber housing, in the terminal housing)

in type of protection „Intrinsic Safety“ Ex ia IIC
only for connection to a certified intrinsically safe circuit
maximum values:
U_i = 30 V
I_i = 131 mA
P_i = 983 mW
characteristic line: linear
effective internal capacitance: 3 nF
The effective internal inductances are negligibly small.

In execution with 2 chamber housing and electronics PLICSZEKX:
effective internal capacitance: 3 nF
effective internal inductance: 5 µH

Type VEGACAL CL6*.GI ***H**

Supply and signal circuit (Terminals Kl1[+], Kl2[-] in the housing for the electronics resp., in the execution with the 2 chamber housing, in the terminal housing)

in type of protection „Intrinsic Safety“ Ex ia IIC
only for connection to a certified intrinsically safe circuit
maximum values:
U_i = 30 V
I_i = 131 mA
P_i = 983 mW
characteristic line: linear
The effective internal capacitances and inductances are negligibly small.

In execution with 2 chamber housing and electronics PLICSZEKX:
The effective internal capacitances are negligibly small.
effective internal inductance: 5 µH

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

Type VEGACAL CL6*.GI ***H/X****

Operation and indication circuit .... (Terminals 5, 6, 7, 8 in the housing for the electronics resp., in the execution with the 2 chamber housing, in the terminal housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61/81 The interconnection of the both intrinsically safe circuits was taken into account. maximum values of the connection cable: C_o = 2.4 µF L_o = 160 µH
Operation and indication module circuit …..… (Spring contacts in the housing for the electronics)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (PLICSCOM)

Thermal data

Permitted process temperature at the probe (EPL Da or Db)
with PTFE-insulation - 50 °C ... + 150 °C
with PE/PA –insulation - 40 °C ... + 80 °C
with PTFE-insulation
high temperature-version - 50 °C ... + 200 °C
Permitted ambient temperature range at the electronics enclosure (EPL Db) - 40 °C ... + 60 °C

The capacitive continuous level measurement sensor VEGACAL CL6*.GI******* is marked with T65 °C for
the max. permissible ambient temperature at the housing of $T_{amb, max.}$ = 60 °C
and a temperature of the medium at the measuring sensor of T_{med} = 65 °C.

At higher temperatures of the medium at the measuring sensor of T_{Med} = 65 °C, the max. surface temperature of the complete capacitive continuous level measurement sensors is equal to T_{med} .

For zone 20 applications in the area of the sensor:

The measuring sensor is allowed to be operated in an explosion hazardous area, only if atmospheric conditions exist.
(temperature: -20 °C to +60 °C, pressure: 0.8 bar to 1.1 bar, air with normal oxygen content: typically 21 % v/v).
Observe manual of the manufacturer for additional hints.

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1
30519 Hannover
Germany

Specific Conditions of Use

1. At the plastic parts of the capacitive continuous level measurement sensors there is a danger of ignition by electrostatic discharge. Charge generating processes have to be avoided there.

2. The cable entries and blanking elements in the housing have to be suitably certified for an operating temperature range of -40 °C to 80 °C or the cable entries and blanking elements of the manufacturer have to be used.

3. At risks by pendulum or vibration the respective parts of the level switches have to be secured effectively against these dangers.

4. The max. surface temperature for higher temperatures T_{med} = 65 °C has to be taken from the "Thermal data" mentioned above and from the manual of the manufacturer.