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 05.0008X	issue No.:6
Status:	**Current**	
Date of Issue:	**2017-09-12**	Page 1 of 4

Certificate history:
Issue No. 6 (2017-9-12)
Issue No. 5 (2014-8-7)
Issue No. 4 (2010-5-5)
Issue No. 3 (2008-7-8)
Issue No. 2 (2007-11-21)
Issue No. 1 (2006-11-7)

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Equipment: **Capacitive continuous level measurement sensor type VEGACAL CL6*.CI ***H/X/P/F*****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: Ex ia IIC T6 ... T1 Ga, Ga/Gb, Gb

Approved for issue on behalf of the IECEx Certification Body: Meyer

Position: Head of IECEx Certification Body

Signature: (for printed version)

Date: 2017-09-12

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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2017-09-12** Issue No.: **6**

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 60079-26 : 2014-10 Edition: 3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga

*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

IECEx ATR:
DE/TUN/ExTR08.0020/04
IECEx QAR
DE/TUN/QAR06.0002/07

File Reference:
17 217 207384

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Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2017-09-12** Issue No.: **6**

Schedule

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

The capacitive continuous level measurement sensors type VEGACAL CL6*.CI ***H/X/P/F**** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.
The capacitive continuous level measurement sensors type VEGACAL CL6*.CI ***H/X/P/F**** consist of a single chamber housing or a double chamber housing, a process adapting element and a measuring sensor.

For further information see attachment.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1.At the plastic parts of the capacitive continuous level measurement sensors there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2.For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive continuous level measurement sensors have to be secured effectively against these dangers. Observe manual of the manufacturer.
3.For zone 0 resp. zone 0/1 applications, at the metallic electrode parts of the capacitive continuous level measurement sensors made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
4.For zone 0/1 applications the medium tangent materials have to be resistant to the media.

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Date of Issue: **2017-09-12** Issue No.: **6**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See documentation of the manufacturer and attachment for details.

Annex: _Attachment_VEGACAL_C_X,H,P_F_ia_TUN05.0008X.pdf

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The capacitive continuous level measurement sensors type VEGACAL CL6*.CI ***H/X/P/F**** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.
The capacitive continuous level measurement sensors type VEGACAL CL6*.CI ***H/X/P/F**** consist of a single chamber housing or a double chamber housing, a process adapting element and a measuring sensor.

Mechanical basic execution of the electrodes:

Type	Electrodes
VEGACAL CL62	partly insulated rod electrode, optionally with screening tube or concentric tube
VEGACAL CL63	fully insulated rod electrode, optionally plated
VEGACAL CL64	fully insulated rod electrode for viscous and adhesive filling materials
VEGACAL CL65	partly insulated cable electrode optionally with abrasion protection
VEGACAL CL66	fully insulated cable electrode

Electrical data

Type VEGACAL CL6*.CI ***X**

Supply and signal circuit .....
(Terminals Kl1[+], Kl2[-]
in the electronics compartment of the single chamber housing or
in the terminal compartment of the double chamber 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.

Type VEGACAL CL6*.CI ***H**

Supply and signal circuit .....
(Terminals Kl1[+], Kl2[-]
in the electronics compartment of the single chamber housing or
in the terminal compartment of the double chamber 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 capacitance and inductances are negligibly small.
At connected electronics PLICSZEKX:
Effective internal inductance: 5 µH

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Type VEGACAL CL6*.CI ***P/F****

Supply and signal circuit ..... (Terminals Kl1[+], Kl2[-] in the electronics compartment of the single chamber housing or in the terminal compartment of the double chamber housing)	in type of protection „Intrinsic Safety“ Ex ia IIC maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus. or U_i = 24 V I_i = 250 mA P_i = 1.2 W The effective internal capacitance is negligibly small. Effective internal inductance: 5 µH At connected electronics PLICSZEKX: Effective internal inductance: 10 µH

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Type VEGACAL CL6*.CI ***H/P/F****

Operation and indication circuit ……. (Terminals 5, 6, 7, 8 in the electronics compartment of the single chamber housing or in the terminal compartment of the double chamber 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 electronics compartment of the single chamber housing or in the terminal compartment of the double chamber housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (PLICSCOM)

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Communication circuit ……. (I^2C bus in the electronics compartment of the single chamber housing or in the terminal compartment of the double chamber housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61/81

are connected, the following maximum values of the connection cable to the VEGADIS61/81 do result:

C_o = 2.8 µF
L_o = 100 µH

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

Thermal data

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

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of EPL Ga the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C … +46 °C
T5, T4, T3, T2, T1	-20 °C … +60 °C

The measuring sensors and the electronics of the capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of EPL Ga, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

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If the capacitive continuous level measurement sensors are mounted in the partition wall between explosion hazardous areas which require apparatus of the EPL Ga (electrode) and EPL Gb (electronics), the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range at measuring sensor
T6	-40 °C … +46 °C	-20 °C …+60 °C
T5	-40 °C …+61 °C	
T4	-40 °C …+80 °C	
T3		
T2		
T1		

The measuring sensors of the capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of the EPL Ga, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of the EPL Gb the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range at measuring sensor		
		PE insulation	PTFE insulation	PTFE insulation with temperature adapter
T6	-40 °C … +46 °C	-40 °C … +80 °C	-50 °C … +85 °C	-50 °C … +85 °C
T5	-40 °C … +61 °C		-50 °C … +100 °C	-50 °C … +100 °C
T4	-40 °C … +80 °C		-50 °C … +135 °C	-50 °C … +135 °C
T3			-50 °C … +150 °C	-50 °C … +200 °C
T2				
T1				

If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

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Type VEGACAL CL6*.CI ***P/F****

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of the EPL Ga the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range (electronics) and medium temperature range (measuring sensor)
T6	-20 °C … +38 °C
T5	-20 °C … +53 °C
T4, T3, T2, T1	-20 °C … +60 °C

The measuring sensors and the electronics of the capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of the EPL Ga, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive continuous level measurement sensors are mounted in the partition wall between explosion hazardous areas which require apparatus of the EPL Ga (electrode) and EPL Gb (electronics), the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range at measuring sensor
T6	-40 °C … +38 °C	-20 °C …+60 °C
T5	-40 °C …+53 °C	
T4	-40 °C …+80 °C	
T3		
T2		
T1		

The measuring sensors of the capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of the EPL Ga, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).
If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the

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danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of the EPL Gb the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

<table>
<tr><th rowspan="2">Temperature class</th><th rowspan="2">Ambient temperature range</th><th colspan="3">Medium temperature range at measuring sensor</th></tr>
<tr><th>PE insulation</th><th>PTFE insulation</th><th>PTFE insulation with temperature adapter</th></tr>
<tr><td>T6</td><td>-40 °C … +38 °C</td><td rowspan="6">-40 °C … +80 °C</td><td>-50 °C … +85 °C</td><td>-50 °C … +85 °C</td></tr>
<tr><td>T5</td><td>-40 °C … +53 °C</td><td>-50 °C … +100 °C</td><td>-50 °C … +100 °C</td></tr>
<tr><td>T4</td><td rowspan="4">-40 °C … +80 °C</td><td>-50 °C … +135 °C</td><td>-50 °C … +135 °C</td></tr>
<tr><td>T3</td><td rowspan="3">-50 °C … +150 °C</td><td rowspan="3">-50 °C … +200 °C</td></tr>
<tr><td>T2</td></tr>
<tr><td>T1</td></tr>
</table>

If the measuring sensors of the capacitive continuous level measurement sensors are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

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. Observe manual of the manufacturer and warning label.
2. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive continuous level measurement sensors have to be secured effectively against these dangers. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications, at the metallic electrode parts of the capacitive continuous level measurement sensors made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
4. For zone 0/1 applications the medium tangent materials have to be resistant to the media.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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Certificate No.:	IECEx TUN 05.0007X issue No.:3	Certificate history: Issue No. 3 (2010-5-5) Issue No. 2 (2008-7-4) Issue No. 1 (2006-12-6)
Status:	**Current**	
Date of Issue:	**2010-05-05** Page 1 of 5	
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113 77761 Schiltach **Germany**	
Electrical Apparatus: *Optional accessory:*	**Capacitive Measuring Probe VEGACAL CL6*.CI**H**** --	
Type of Protection:	**Intrinsic Safety**	
Marking:	**Ex ia IIC T6 Ga, Ga/Gb, Gb**	

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of IECExCB

Signature: (for printed version)

Date: 2010-05-05

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IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2010-05-05** Issue No.: **3**

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

Manufacturing location(s):

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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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

IECEx ATR:
ExTR 08.0015/01

File Reference:
10 204 555744

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2010-05-05** Issue No.: **3**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIH** are used for monitoring or control of filling levels in explosion hazardous areas.**

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**H**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**H**	fully insulated electrode, optionally plated
CL64.CI**H**	fully insulated electrode, optionally with screening tube, concentric tube or pla
CL65.CI**H**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**H**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

See annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2010-05-05** Issue No.: **3**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2010-05-05** Issue No.: **3**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe: 3rd supplement_VEGACAL CL6_H.pdf

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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Certificate No.:	IECEx TUN 05.0007X issue No.:2	Certificate history: Issue No. 2 (2008-7-4) Issue No. 1 (2006-12-6)
Status:	**Current**	
Date of Issue:	**2008-07-04**	Page 1 of 5
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113 D-77761 Schiltach **Germany**	
Electrical Apparatus: *Optional accessory:*	**Capacitive Measuring Probe VEGACAL CL6*.CI***H****** --	
Type of Protection:	**Intrinsic Safety**	
Marking:	**Zone 0, 0/1 Ex ia IIC T6**	
Approved for issue on behalf of the IECEx Certification Body:	Karl-Heinz Schwedt	
Position:	Head of IECExCB	
Signature: *(for printed version)*		
Date:	2008-07-04	

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Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2008-07-04** Issue No.: **2**

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

Manufacturing location(s):
VEGA Grieshaber KG
Am Hohenstein 113
D-77761 Schiltach
Germany

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2004 Edition: 1	Electrical apparatus for explosve gas atmospheres - Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus

*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

IECEx ATR:
DE/TUN/ExTR08.0015/00
IECEx QAR:
DE/QAR/TUN/06.0002/00

File Reference:
08 204 554574

QAR TUN 04.0002

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2008-07-04** Issue No.: **2**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIH** are used for monitoring or control of filling levels in explosion hazardous areas.**

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**H**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**H**	fully insulated electrode, optionally plated
CL64.CI**H**	fully insulated electrode, optionally with screening tube, concentric tube or pla
CL65.CI**H**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**H**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**H** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

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Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2008-07-04** Issue No.: **2**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

see annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0007X

Date of Issue: **2008-07-04** Issue No.: **2**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe: 2nd supplement_VEGACAL CL6.CI_H_.pdf

IECEx Certificate of Conformity

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Certificate No.: **IECEx TUN 05.0007X** Issue No.: **1**

Status: **Current**

Date of Issue: **2006-12-06** Page **1** of **6**

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
D-77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe VEGACAL CL6*.CI**H****
Optional accessory: **--**

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of IECExCB

Signature:
(for printed version)

Date:

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IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2006-12-06** Issue No.: **1**

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

Manufacturing location(s):

VEGA Grieshaber KG
Am Hohenstein 113
D-77761 Schiltach
Germany

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR: **DE/TUN/05/551905**

File Reference: **05YEX551905**

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2006-12-06** Issue No.: **1**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIH** are used for monitoring or control of filling levels in explosion hazardous areas.**

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**H**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**H**	fully insulated electrode, optionally plated
CL64.CI**H**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**H**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**H**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**H** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2006-12-06** Issue No.: **1**

EQUIPMENT(continued):

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 57°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 72°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit (Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell 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.

Operation and indication circuit (Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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 The interconnection of the both intrinsically safe circuits was taken into account.

maximum values of the connection cable:

Co = 2,4 µF

Lo = 160 µH

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2006-12-06** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2006-12-06** Issue No.: **1**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe: 1Erg_COC_CAL CL6-CI_H_.pdf

TÜV NORD CERT GmbH & Co. KG
Am TÜV 1
30519 Hannover

Testing Laboratory Explosion Protected Equipment and Monitoring Devices

TÜV NORD

IECEx ATR:	File reference:
DE/TUN/ExTR06.0061/00	06 TUN 553277
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI**H** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical and electrical construction of the measuring probes as well as to the electrical data.

Mechanical execution of the measuring probes:

Type	Electrodes
CL62.CI**H**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**H**	fully insulated electrode, optionally plated
CL64.CI**H**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**H**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**H**	fully insulated cable electrode
CL69.CI**H**	fully insulated 2-rod electrode

VEGACAL CL6*.CIH3*, VEGACAL CL6*.CI**H4*, VEGACAL CL6*.CI**H5***

Supply and signal circuit .....
(Connection cable at the housing for the electronics resp., in the execution with the 2 cell housing, at 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 the execution VEGACAL CL6*.CI**H3/4/5* a value of $C_i'_{\text{wire/wire}}$ = 58pF/m und $C_i'_{\text{wire/shield}}$ = 270pF/m has to be taken into account.
In the execution VEGACAL CL6*.CI**H3/4/5* a value of L_i' = 55µH/m has to be taken into account.

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

Operation and indication circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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 (IECEx PTB 06.0048) The interconnection of the both intrinsically safe circuits was taken into account. maximum values of the connection cable: Co = 2.4 µF Lo = 160 µH
Communication circuit ..... (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61 (IECEx PTB 06.0048)

are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

C_o = 2.8 µF
L_o = 100 µH

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

All other details as well as the "Special conditions for safe use" apply unchanged for this supplement.

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 05.0007X** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-03-18** Page **1** of **5**

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
D-77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe VEGACAL CL6*.CI**H****
Optional accessory: **–**

Type of Protection: **Intrinsic Safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of IECExCB

Signature:
(for printed version)

Date:

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:

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Am TUV1
D-30519 Hannover
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2005-03-18** Issue No.: **0**

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

Manufacturing location(s):

VEGA Grieshaber KG
Am Hohenstein 113
D-77761 Schiltach
Germany

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR: **DE/TUN/05/551905**

File Reference: **05YEX551905**

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2005-03-18** Issue No.: **0**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CI**H** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**H**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**H**	fully insulated electrode, optionally plated
CL64.CI**H**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**H**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**H**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**H** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2005-03-18** Issue No.: **0**

EQUIPMENT(continued):

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 57°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 72°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit (Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell 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.

Operation and indication circuit (Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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
The interconnection of the both intrinsically safe circuits was taken into account.
maximum values of the connection cable:
Co = 2,4 µF
Lo = 160 µH

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0007X**

Date of Issue: **2005-03-18** Issue No.: **0**

Additional Information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe:

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 05.0008X issue No.:5	Certificate history: Issue No. 5 (2014-8-7) Issue No. 4 (2010-5-5) Issue No. 3 (2008-7-8) Issue No. 2 (2007-11-21) Issue No. 1 (2006-11-7)
Status:	**Current**	
Date of Issue:	**2014-08-07** Page 1 of 4	
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113 77761 Schiltach **Germany**	
Electrical Apparatus: *Optional accessory:*	**Capacitive Measuring Probe type VEGACAL CL6*(*).CI***P/F****(*)(*)**	
Type of Protection:	**Intrinsic safety**	
Marking:	Ex ia IIC T6 Ga, Ga/Gb, Gb	
Approved for issue on behalf of the IECEx Certification Body:	Meyer	
Position:	Head of IECEx Certification Body	
Signature: *(for printed version)*		
Date:	2014-08-07	

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IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2014-08-07** Issue No.: **5**

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 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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

IECEx ATR:
DE/TUN/ExTR08.0020/03
IECEx QAR
DE/TUN/QAR06.0002/05

File Reference:
14 217 141324

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2014-08-07** Issue No.: **5**

Schedule

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

see annexe

CONDITIONS OF CERTIFICATION: YES as shown below:

unchanged

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2014-08-07** Issue No.: **5**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

see annexe

Annex: Annexe_COC_VEGACALC_issue 5_TUN05.0008X.pdf

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IECEx TR:	File reference:
DE/TUN/ExTR08.0020/03	14 217 141324
IECEx QAR:	
DE/TUN/QAR/06.0002/05	

In the future, the following changes are performed for Capacitive Measuring Probe type VEGACAL CL6*(*).CI***P/F****(*)(*):

1. Update to actual standards
2. Changes regarding technical and electrical data
3. Changes regarding electric diagram
4. Changes to the layout
5. New components used
6. Application with PLICSCOM 02 added
7. Application with VEGADIS81 added
8. Introduction of new cables
9. Changes of the type code/marking
10. New manufacturing location added

Electrical data

Power supply and signal circuit: (Terminals 1[+], 2[-] in connection compartment; with double chamber housing version in connection compartment)	Ignition protection type intrinsic safety Ex ia IIC/IIB. Only for connection to a certified, intrinsically safe circuit. Maximum values: U_i = 17.5 V I_i = 500 mA P_i = 5.5 W The instrument is suitable for connection to a Fieldbus system according to the FISCO model, e. g. Profibus PA or Foundation Fieldbus, or U_i = 24 V I_i = 250 mA P_i = 1.2 W Effective internal capacitance C_i is negligible. Effective internal inductance $L_i \leq$ 5 µH. In the version with fix mounted connection cable $C_{i\ wire/wire}$ = 150 pF/m, $C_{i\ wire/screen}$ = 270 pF/m and additionally L_i=0.55 µH/m has to be taken into account.

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Circuit between sensor unit and remote processing unit	In ignition protection „Intrinsic Safety“ Ex ia IIC. With VEGADIF type DF65(*).C******P/F*****(*)(*) in the version with fix mounted cable on the sensor unit and external processing unit, the supplied cable between the processing unit and the sensor unit must not exceed a length of 47 m.
Indicating and adjustment circuit: (terminals 5, 6, 7, 8 in electronics compartment or plug connection with double chamber housing version)	In ignition protection type intrinsic safety Ex ia IIC. For connection to the instrisically safe circuit of the associated external indicating unit VEGADIS 61/81 (IECEx PTB 06.0048). The rules for the interconnection of intrinsically safe circuits between VEGACAL CL6*(*).CI***P/F****(*)(*) and the external indicating and adjustment unit VEGADIS 61/81 are fulfilled, provided that the total inductance and total capacitance of the connection cable between VEGACAL CL6*(*).CI***P/F****(*)(*) and the external indicating unit VEGADIS 61/81 L_{cable}=100µH and C_{cable}=2.4µF are not exceeded.
Communication circuit …… (I²C bus socket in electronics compartment; additionally in the connection compartment with double chamber housing version)	Ignition protection type intrinsic safety Ex ia IIC. Only for connection to the intrinsically safe signal circuit of an interface converter VEGACONNECT.
Indicating and adjustment module circuit: (spring contacts in the electronics compartment; additionally in the electronics compartment with double chamber housing version)	Ignition protection type intrinsic safety Ex ia IIC. Only for connection to the indication and adjustment module PLICSCOM. With the double chamber housing version, the indicating and adjustment module may be either in the electronics housing or in the connection compartment.
Capacitive measuring circuit (separate version)	Ignition protection type intrinsic safety Ex ia IIC. For the version with separate housing the length of the triax or coax connection cable between housing and electrode housing may not exceed 10 m.

The intrinsically safe circuit is galvanically isolated from the parts which can be grounded. The metallic parts of the sensor are electrically connected with the earth terminal.

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For applications requiring instruments of EPL-Ga resp. EPL-Ga/Gb, the VEGACAL CL6*(*).CI***P/F****(*)(*) is preferably connected to associated apparatus with galvanically isolated, intrinsically safe circuits.

The maximum permissible ambient temperatures depending on the temperature classes are specified in the following tables:

EPL-Ga instruments:

Temperature class	Ambient temperature range of the sensor and electronics
T4, T3, T2, T1	-20°C … +60°C

For applications requiring instruments EPL-Ga the pressure at the sensor probe must be between 0.8 bar to 1.1 bar.
The permissible operating temperatures and pressures without explosive atmosphere are mentioned in the manufacturer instructions.

EPL-Ga/Gb instruments:

Temperature class	Ambient temperature on the electronics	Ambient temperature on the sensor
T6	-40°C … +38°C	-20°C … +60°C
T5	-40°C … +53°C	-20°C … +60°C
T4, T3, T2, T1	-40°C … +80°C	-20°C … +60°C

For applications requiring instruments EPL-Ga the pressure at the sensor probe must be between 0.8 bar to 1.1 bar. If the sensors of the capacitive probes are operated at higher temperatures as mentioned in the above table, appropriate measures need to be performed that the danger of ignition caused by these hot surfaces is excluded. The maximum permissible temperature on the electronics/housing should not exceed the values according to the above table. The application conditions during operation in the without explosive atmosphere are mentioned in the respective manufacturer instructions for each probe type.

EPL-Gb instruments:

Temperature class	Ambient temperature on the electronics	Ambient temperature on the sensor with PE/PA insulation	Ambient temperature on the other sensors without temperature adapter	Ambient temperature on the other sensors with temperature adapter
T6	-40°C … +38°C	-40°C … +80°C	-50°C … +85°C	-50°C … +85°C
T5	-40°C … +53°C	-40°C … +80°C	-50°C … +100°C	-50°C … +100°C
T4	-40°C … +80°C	-40°C … +80°C	-50°C … +135°C	-50°C … +135°C
T3, T2, T1	-40°C … +80°C	-40°C … +80°C	-50°C … +150°C	-50°C … +200°C

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If the sensors of the capacitive probes are operated at temperatures higher than those specified in the above table, appropriate measures need to be performed that the danger of ignition caused by these hot surfaces is excluded.

The maximum permissible temperature on the electronics/housing should not exceed the values according to the above table. The application conditions during operation in the without explosive atmosphere are mentioned in the manufacturer information.

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 05.0008X	issue No.:4	Certificate history: Issue No. 4 (2010-5-5) Issue No. 3 (2008-7-8) Issue No. 2 (2007-11-21) Issue No. 1 (2006-11-7)
Status:	**Current**		
Date of Issue:	**2010-05-05**	Page 1 of 4	

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe type VEGACAL CL6*.CI**PF****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T6 Ga, Ga/Gb, Gb**

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of IECExCB

Signature:
(for printed version)

Date: 2010-05-05

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TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2010-05-05** Issue No.: **4**

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

Manufacturing location(s):

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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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

IECEx ATR: **ExTR 08.0020/01**

File Reference: **10 204 555742**

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2010-05-05** Issue No.: **4**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIP/F** are used for monitoring or control of filling levels in explosion hazardous areas. The measuring media are allowed to be combustible liquids, gases, mists or vapours.**

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

See annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2010-05-05** Issue No.: **4**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

Annexe: 4th supplement_VEGACAL CL6.CI_P_F_.pdf

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IECEx Certification Body

IECEx ExTR:	File reference:
DE/TUN/ExTR08.0020/01	10 204 555742
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/01	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI***P/F**** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical and electrical construction (new temperature adapter, new version of cable electrode, 2 chamber housing made of plastics; new PLICSCOM module and minor changes at the HF board) and the marking.
The marking reads as follows:
Ex ia IIC Tx Ga, Ga/Gb, Gb (Tx: see tables for temperature ranges in issue no. 3 of IECEx TUN 05.0008 X).

All other details remain unchanged.

Special conditions for safe use:

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.CI***P/F**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For zone 0 applications, at the metallic parts of the capacitive measuring probes type VEGACAL CL6*.CI***P/F**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type VEGACAL CL65.CI***P/F**** and type VEGACAL CL66.CI***P/F**** have to be secured effectively against these dangers. Observe manual of the manufacturer.

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 05.0008X	issue No.:3
Status:	**Current**	
Date of Issue:	**2008-07-08**	Page 1 of 5

Certificate history:
Issue No. 3 (2008-7-8)
Issue No. 2 (2007-11-21)
Issue No. 1 (2006-11-7)

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe type VEGACAL CL6*.CI***P/F*****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Zone 0, 0/1 Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl Heinz Schwedt

Position: Head of IECExCB

Signature:
(for printed version)

Date: 2008-07-08

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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

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30519 Hannover
Germany

TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2008-07-08** Issue No.: **3**

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

Manufacturing location(s):

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2004 Edition: 1	Electrical apparatus for explosve gas atmospheres - Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus

*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

IECEx ATR:	File Reference:
DE/TUN/ExTR08.0020/00	**08 204 554573**
IECEx QAR	
DE/QAR/TUN/06.0002/00	**QAR TUN 04.0002**

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2008-07-08** Issue No.: **3**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIP/F** are used for monitoring or control of fillir hazardous areas.**

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or pla
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2008-07-08** Issue No.: **3**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2008-07-08** Issue No.: **3**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe: 3rd supplement_VEGACAL CL6.CI_P_F_.pdf

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IECEx Certification Body

IECEx ExTR:	File reference:
DE/TUN/ExTR08.0020/00	08 204 554573
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI***P/F**** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the type designation, the mechanical and electrical construction, the temperature range in the area of the electronics/of the medium, the special conditions for safe use and the marking.
The marking reads as follows: Zone 0, 0/1 Ex ia IIC Tx (see tables for temperature ranges).

Type designation and mechanical execution of the measuring probes:

Type	Electrodes
CL62.CI*** P/F ****	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI*** P/F ****	fully insulated electrode, optionally plated
CL64.CI*** P/F ****	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI*** P/F ****	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI*** P/F ****	fully insulated cable electrode
CL69.CI*** P/F ****	fully insulated 2-rod electrode

If the capacitive measuring probes are used in explosion hazardous areas of zone 0, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6	-20 °C … +47 °C	-20°C … +47 °C
T5, T4, T3, T2, T1	-20 °C … +60 °C	-20°C … +60 °C

The capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas of the zone 0 (electrode) and zone 1 (electronics), the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6	-40 °C … +47 °C	-20°C … +60 °C
T5	-40 °C … +62 °C	-20°C … +60 °C
T4, T3, T2, T1	-40 °C … +80 °C	-20°C … +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive measuring probes are mounted in explosion hazardous areas of the zone 1, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 47°C	- 40°C... + 80°C	-50°C … +85 °C
T5	- 40°C... + 62°C	- 40°C... + 80°C	-50°C … +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +150 °C

***** with temperature adapter for medium temperatures > 150°C … 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit .....
(Connection cable at the housing for the electronics resp., in the execution with the 2 cell housing, at the terminal housing)

in type of protection „Intrinsic Safety“ Ex ia IIC/IIB only for connection to a certified intrinsically safe circuit maximum values:

U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W

The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.
effective internal inductance: 5 µH

In the execution
VEGACAL CL62.CI*** P/F3/4/5/9*** a value of
$Ci'_{wire/wire}$ = 58pF/m und $Ci'_{wire/shield}$ = 270pF/m
has to be taken into account.
In the execution
VEGACAL CL6*. CI*** P/F3/4/5/9*** a value of
Li´ = 55µH/m has to be taken into account additionally.

Operation and indication circuit …….
(Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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 (IECEx PTB 06.0048)
The interconnection of the both intrinsically safe circuits was taken into account.
maximum values of the connection cable:
Co = 2.4 µF
Lo = 160 µH

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Communication circuit ……. (I²C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61 (IECEx PTB 06.0048)

are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

C_o = 2,8 µF
L_o = 100 µH

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

All other details remain unchanged.

Special conditions for safe use:

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.CI***P/F**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For zone 0 applications, at the metallic parts of the capacitive measuring probes type VEGACAL CL6*.CI***P/F**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type VEGACAL CL65.CI***P/F**** and type VEGACAL CL66.CI***P/F**** have to be secured effectively against these dangers. Observe manual of the manufacturer.

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 05.0008X	issue No.:2	Certificate history: Issue No. 2 (2007-11-21) Issue No. 1 (2006-11-7)
Status:	**Current**		
Date of Issue:	**2007-11-21**	Page 1 of 6	

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe type VEGACAL CL6*.CI**PF****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl Heinz Schwedt

Position: Head of IECExCB

Signature: (for printed version)

Date: 2007-11-21

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TÜV NORD

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2007-11-21** Issue No.: **2**

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

Manufacturing location(s):

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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR:
DE/TUN/05/551991

File Reference:
05 TUN 551991

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2007-11-21** Issue No.: **2**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIP/F** are used for monitoring or control of filling levels in explosion hazardous areas. The measuring media are allowed to be combustible liquids, gases, mists or vapours.**

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2007-11-21** Issue No.: **2**

EQUIPMENT(continued):

Only changes regarding the formatting; see annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2007-11-21** Issue No.: **2**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Only changes regarding the formatting; see annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0008X

Date of Issue: **2007-11-21** Issue No.: **2**

Additional information:

Only changes regarding the formatting; see annexe

Annexe: 1. Supplement_COC_CAL CL6-_CI_P_F.pdf, CoC IECEx TUN 05.0008X_complete inclusive of Special Condition.pdf

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

IECEx ATR:	File reference:
DE/TUN/ExTR06.0044/01	06 TUN 553279
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR/TUN/QAR06.0002/00

The capacitive measuring probes type VEGACAL CL6*.CI**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical and electrical construction of the measuring probes as well as to the electrical data.

Mechanical execution of the measuring probes

Type	Electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode
CL69.CI**P/F**	fully insulated 2-rod electrode

Electrical data

VEGACAL CL6*.C_P/F3*, VEGACAL CL6*.C_**P/F4*, VEGACAL CL6*.C_**P/F5***

Supply and signal circuit ..... in type of protection „Intrinsic Safety" Ex ia IIC/IIB
(Connection cable at the housing for the electronics resp., in the execution with the 2 cell housing, at the terminal housing)
only for connection to a certified intrinsically safe circuit

maximum values:
U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W
The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

	or U_i = 24 V I_i = 250 mA P_i = 1.2 W In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of $Ci'_{wire/wire}$ = 58pF/m und $Ci'_{wire/shield}$ = 270pF/m has to be taken into account. effective internal inductance: 5 µH The effective internal capacitance is negligibly small. In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of Li' = 55µH/m has to be taken into account additionally.
Operation and indication circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. plug connection in the execution with the 2 cell 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 (IECEx PTB 06.0048) 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
Communication circuit ..... (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61 (IECEx PTB 06.0048)

are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

C_o = 2,8 µF
L_o = 100 µH

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

All other details as well as the "Special conditions for safe" use apply unchanged for this supplement.

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

Issue No. 2 of IECEx TUN 05.0008 X

The capacitive measuring probes type VEGACAL CL6*.CI**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 47°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 62°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit (Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell housing, in the terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC/IIB
maximum values:

U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W

The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.
effective internal inductance: 5 µH

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

Operation and indication circuit (Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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 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 and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Conditions of Certification

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

The capacitive measuring probes type VEGACAL CL6*.Cl**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.Cl**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.Cl**P/F**	fully insulated electrode, optionally plated
CL64.Cl**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.Cl**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.Cl**P/F**	fully insulated cable electrode

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 47°C	- 40°C... + 80°C	-50°C … +85 °C
T5	- 40°C... + 62°C	- 40°C... + 80°C	-50°C … +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +150 °C

* with temperature adapter for medium temperatures > 150°C … 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

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

in type of protection „Intrinsic Safety“ Ex ia IIC/IIB
maximum values:
U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W
The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.
effective internal inductance: 5 µH

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

Operation and indication circuit (Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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 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 and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Conditions of Certification

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

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 05.0008X** Issue No.: **1**

Status: **Current**

Date of Issue: **2006-11-07** Page **1** of **6**

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe type VEGACAL CL6*.CI**PF****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl Heinz Schwedt

Position: Head of IECExCB

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

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TÜV NORD

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2006-11-07** Issue No.: **1**

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

Manufacturing location(s):

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR: **DE/TUN/05/551991**

File Reference: **05 TUN 551991**

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2006-11-07** Issue No.: **1**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CIP/F** are used for monitoring or control of filling levels in explosion hazardous areas.**

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2006-11-07** Issue No.: **1**

EQUIPMENT(continued):

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 47°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 62°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit
(Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell housing, in the terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC/IIB
maximum values:

U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W

The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.
effective internal inductance: 5 µH

Operation and indication circuit
(Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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
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

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2006-11-07** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2006-11-07** Issue No.: **1**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe: 1Erg_COC_CAL CL6-_CI_P_F.pdf

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

IECEx ATR:	File reference:
DE/TUN/ExTR06.0044/01	06 TUN 553279
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR/TUN/QAR06.0002/00

The capacitive measuring probes type VEGACAL CL6*.CI**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical and electrical construction of the measuring probes as well as to the electrical data.

Mechanical execution of the measuring probes

Type	Electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode
CL69.CI**P/F**	fully insulated 2-rod electrode

Electrical data

VEGACAL CL6*.C_P/F3*, VEGACAL CL6*.C_**P/F4*, VEGACAL CL6*.C_**P/F5***

Supply and signal circuit ..... in type of protection „Intrinsic Safety" Ex ia IIC/IIB
(Connection cable at the housing for the electronics resp., in the execution with the 2 cell housing, at the terminal housing)

only for connection to a certified intrinsically safe circuit

maximum values:
U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W
The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

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Testing Laboratory Explosion Protected Equipment and Monitoring Devices

	or U_i = 24 V I_i = 250 mA P_i = 1.2 W In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of $Ci'_{wire/wire}$ = 58pF/m und $Ci'_{wire/shield}$ = 270pF/m has to be taken into account. effective internal inductance: 5 µH The effective internal capacitance is negligibly small. In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of Li' = 55µH/m has to be taken into account additionally.
Operation and indication circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. plug connection in the execution with the 2 cell 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 (IECEx PTB 06.0048) 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
Communication circuit ..... (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61 (IECEx PTB 06.0048)

are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

C_o = 2,8 µF
L_o = 100 µH

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

All other details as well as the "Special conditions for safe" use apply unchanged for this supplement.

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30519 Hannover

Testing Laboratory Explosion Protected Equipment and Monitoring Devices

IECEx ATR:	File reference:
DE/TUN/ExTR06.0044/01	06 TUN 553279
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR/TUN/QAR06.0002/00

The capacitive measuring probes type VEGACAL CL6*.CI**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical and electrical construction of the measuring probes as well as to the electrical data.

Mechanical execution of the measuring probes

Type	Electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode
CL69.CI**P/F**	fully insulated 2-rod electrode

Electrical data

VEGACAL CL6*.C_P/F3*, VEGACAL CL6*.C_**P/F4*, VEGACAL CL6*.C_**P/F5***

Supply and signal circuit ..... (Connection cable at the housing for the electronics resp., in the execution with the 2 cell housing, at the terminal housing)

in type of protection „Intrinsic Safety“ Ex ia IIC/IIB only for connection to a certified intrinsically safe circuit

maximum values:
U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W
The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or
U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of $Ci'_{wire/wire}$ = 58pF/m und $Ci'_{wire/shield}$ = 270pF/m has to be taken into account.
effective internal inductance: 5 µH
The effective internal capacitance is negligibly small.
In the execution VEGACAL CL6*.C_**P/F3/4/5* a value of Li´ = 55µH/m has to be taken into account additionally.

Operation and indication circuit ..... (Terminals 5, 6, 7, 8 in the housing for the electronics resp. plug connection in the execution with the 2 cell 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 (IECEx PTB 06.0048) 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
Communication circuit ..... (I²C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

If
- the VEGA interface converter type VEGACONNECT and
- the external VEGA indication unit type VEGADIS61 (IECEx PTB 06.0048)

are connected, the following maximum values of the connection cable to the VEGADIS61 do result:
C_o = 2,8 µF
L_o = 100 µH
A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

All other details as well as the “Special conditions for safe” use apply unchanged for this supplement.

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 05.0008X** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-05-11** Page **1** of **5**

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive Measuring Probe type VEGACAL CL6*.CI**PF****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Herbert Stürwold

Position: Head of IECExCB

Signature:
(for printed version)

Date:

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D-30519 Hannover
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IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2005-05-11** Issue No.: **0**

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

Manufacturing location(s):

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR: **DE/TUN/05/551991**

File Reference: **05 TUN 551991**

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2005-05-11** Issue No.: **0**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CI**P/F** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**P/F**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**P/F**	fully insulated electrode, optionally plated
CL64.CI**P/F**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**P/F**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**P/F**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**P/F** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2005-05-11** Issue No.: **0**

EQUIPMENT(continued):

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 47°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 62°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

Supply and signal circuit
(Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell housing, in the terminal housing)

in type of protection „Intrinsic Safety" Ex ia IIC/IIB
maximum values:

U_i = 17.5 V
I_i = 500 mA
P_i = 5.5 W

The apparatus is suitable for connection to a fieldbus system according to the FISCO concept (IEC 60 079-27), e. g. Profibus PA or Foundation Fieldbus.

or

U_i = 24 V
I_i = 250 mA
P_i = 1.2 W

The effective internal capacitance is negligibly small.
effective internal inductance: 5 µH

Operation and indication circuit
(Terminals 5, 6, 7, 8 in the housing for the electronics resp., plug connection in the execution with the 2 cell 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
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

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0008X**

Date of Issue: **2005-05-11** Issue No.: **0**

Additional information:

Operation and indication module circuit (Spring contacts in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom) In the execution with the 2 cell housing the VEGA operation and indication module may only be implemented either in the housing for the electronics or in the terminal housing.
Communication circuit (I^2C bus in the housing for the electronics and additionally in the terminal housing in the execution with the 2 cell housing)	in type of protection „Intrinsic Safety" Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT

The VEGA interface converter may only be operated together with the capacitive measuring probe, if no explosion hazardous atmosphere exists.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe:

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 05.0002X issue No.:2	Certificate history: Issue No. 2 (2010-5-5) Issue No. 1 (2008-7-4) Issue No. 0 (2005-2-23)
Status:	**Current**	
Date of Issue:	**2010-05-05** Page 1 of 4	
Applicant:	**VEGA Grieshaber KG** Am Hohenstein 113 77761 Schiltach **Germany**	
Electrical Apparatus: *Optional accessory:*	**Capacitive measuring probe VEGACAL CL6*.CI**X******	
Type of Protection:	**Intrinsic safety**	
Marking:	**Ex ia IIC T6 Ga, Ga/Gb, Gb**	
Approved for issue on behalf of the IECEx Certification Body:	Karl-Heinz Schwedt	
Position:	Head of IECExCB	
Signature: *(for printed version)*		
Date:	2010-05-05	

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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 05.0002X

Date of Issue: **2010-05-05** Issue No.: **2**

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

Manufacturing location(s):

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 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2006 Edition: 2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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

IECEx ATR:
ExTR 08.0018/01

File Reference:
10 204 555743

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0002X

Date of Issue: **2010-05-05** Issue No.: **2**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CI**X** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**X**	partly insulated electrode, optionally with screening tube or concentric tut
CL63.CI**X**	fully insulated electrode, optionally plated
CL64.CI**X**	fully insulated electrode, optionally with screening tube, concentric tube c
CL65.CI**X**	partly insulated cable electrode optionally with additionally insulated cabl
CL66.CI**X**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**X** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0002X

Date of Issue: **2010-05-05** Issue No.: **2**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

Annexe: 2nd supplement__VEGACAL CL6_X_.pdf

TÜV NORD CERT GmbH
Am TÜV 1
30519 Hannover

IECEx Certification Body

IECEx ExTR:	File reference:
DE/TUN/ExTR08.0018/01	10 204 555743
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/01	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI***X**** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the mechanical construction (new temperature adapter, new version of cable electrode, 2 chamber housing made of plastics) and the marking.
The marking reads as follows:
Ex ia IIC Tx Ga, Ga/Gb, Gb (Tx: see tables for temperature ranges in issue no. 1 of IECEx TUN 05.0002 X).

All other details remain unchanged.

Special conditions for safe use:

1. At the plastic parts of the capacitive measuring probes type VEGACAL CP6*.CI***X**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For zone 0 applications, at the metallic parts of the capacitive measuring probes type VEGACAL CP6*.CI*** X **** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type VEGACAL CP65.CI*** X **** and type VEGACAL CP66.CI*** X **** have to be secured effectively against these dangers. Observe manual of the manufacturer.

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 05.0002X issue No.:1	Certificate history: Issue No. 1 (2008-7-4) Issue No. 0 (2005-2-23)
Status:	**Current**	
Date of Issue:	**2008-07-04**	Page 1 of 5

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive measuring probe VEGACAL CL6*.CI***X******
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Zone 0, 0/1 Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Karl-Heinz Schwedt

Position: Head of IECExCB

Signature: (for printed version)

Date: 2008-07-04

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 05.0002X

Date of Issue: **2008-07-04** Issue No.: **1**

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

Manufacturing location(s):

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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26 : 2004 Edition: 1	Electrical apparatus for explosve gas atmospheres - Part 26: Construction, test and marking of Group II Zone 0 electrical apparatus

*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

IECEx ATR:
DE / TUN / 08.0018/00
IECEx QAR
DE/QAR/TUN/06.0002/00

File Reference:
08 204 554572

QAR TUN 04.0002

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0002X

Date of Issue: **2008-07-04** Issue No.: **1**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CI**X** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**X**	partly insulated electrode, optionally with screening tube or concentric tul
CL63.CI**X**	fully insulated electrode, optionally plated
CL64.CI**X**	fully insulated electrode, optionally with screening tube, concentric tube c
CL65.CI**X**	partly insulated cable electrode optionally with additionally insulated cabl
CL66.CI**X**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**X** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0002X

Date of Issue: **2008-07-04** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

See annexe

IECEx Certificate of Conformity

Certificate No.: IECEx TUN 05.0002X

Date of Issue: **2008-07-04** Issue No.: **1**

Additional information:

none

Annexe: 1st supplement_VEGACAL CL6.CI_X_.pdf

TÜV NORD CERT GmbH
Am TÜV 1
30519 Hannover

IECEx Certification Body

IECEx ExTR:	File reference:
DE/TUN/ExTR08.0018/00	08 204 554572
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI***X**** are used for monitoring or control of filling levels in explosion hazardous areas.
The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the type designation, the mechanical and electrical construction, the temperature range in the area of the electronics/of the medium, the special conditions for safe use and the marking.
The marking reads as follows: Zone 0, 0/1 Ex ia IIC Tx (see tables for temperature ranges).

Type designation and mechanical execution of the measuring probes:

Type	Electrodes
CL62.CI***X****	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI***X****	fully insulated electrode, optionally plated
CL64.CI***X****	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI***X****	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI***X****	fully insulated cable electrode
CL69.CI***X****	fully insulated 2-rod electrode

If the capacitive measuring probes are used in explosion hazardous areas of zone 0, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6, T5, T4, T3, T2, T1	-20 °C ... +60 °C	-20°C ... +60 °C

The capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas of the zone 0 (electrode) and zone 1 (electronics), the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6	-40 °C ... +64 °C	-20°C ... +60 °C
T5	-40 °C ... +79 °C	-20°C ... +60 °C
T4, T3, T2, T1	-40 °C ... +80 °C	-20°C ... +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive measuring probes are mounted in explosion hazardous areas of the zone 1, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE-insulation	medium temperature range for other electrodes
T6	- 40°C... + 64°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 79°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

TÜV NORD CERT GmbH
Am TÜV 1
30519 Hannover

IECEx Certification Body

Electrical data

Supply and signal circuit ..... (Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell 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 the execution VEGACAL CL6*.CI***X3/4/5/9*** a value of $C_i'_{\text{wire/wire}}$ = 58pF/m und $C_i'_{\text{wire/shield}}$ = 270pF/m has to be taken into account. In the execution VEGACAL CL6*.CI***X3/4/5/9*** a value of L_i' = 55µH/m has to be taken into account.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Special conditions for safe use:

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.CI***X**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For zone 0 applications, at the metallic parts of the capacitive measuring probes type VEGACAL CL6*.CI***X**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type VEGACAL CL65.CI***X**** and type VEGACAL CL66.CI***X**** have to be secured effectively against these dangers. Observe manual of the manufacturer.

TÜV NORD CERT GmbH
Am TÜV 1
30519 Hannover

IECEx Certification Body

IECEx ExTR:	File reference:
DE/TUN/ExTR08.0018/00	08 204 554572
IECEx QAR:	File reference:
DE/QAR/TUN/06.0002/00	QAR TUN 04.0002

The capacitive measuring probes type VEGACAL CL6*.CI***X**** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

The changes refer to the type designation, the mechanical and electrical construction, the temperature range in the area of the electronics/of the medium, the special conditions for safe use and the marking.
The marking reads as follows: Zone 0, 0/1 Ex ia IIC Tx (see tables for temperature ranges).

Type designation and mechanical execution of the measuring probes:

Type	Electrodes
CL62.CI***X****	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI***X****	fully insulated electrode, optionally plated
CL64.CI***X****	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI***X****	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI***X****	fully insulated cable electrode
CL69.CI***X****	fully insulated 2-rod electrode

If the capacitive measuring probes are used in explosion hazardous areas of zone 0, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6, T5, T4, T3, T2, T1	-20 °C … +60 °C	-20°C … +60 °C

The capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas of the zone 0 (electrode) and zone 1 (electronics), the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

Temperature class	Ambient temperature range	Medium temperature range
T6	-40 °C … +64 °C	-20°C … +60 °C
T5	-40 °C … +79 °C	-20°C … +60 °C
T4, T3, T2, T1	-40 °C … +80 °C	-20°C … +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area of the zone 0, only if atmospheric conditions exist (pressure from 0.8 bar to 1.1 bar).
If no explosion hazardous atmospheres exist, the permissible operating temperatures and pressures have to be taken from the manufacturer's data (manual).

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature at the electronics/housing must not exceed the values as mentioned in the a.m. table.

If the capacitive measuring probes are mounted in explosion hazardous areas of the zone 1, the permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE-insulation	medium temperature range for other electrodes
T6	- 40°C... + 64°C	- 40°C... + 80°C	-50°C … +85 °C
T5	- 40°C... + 79°C	- 40°C... + 80°C	-50°C … +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C … +150 °C

***** with temperature adapter for medium temperatures > 150°C … 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

TÜV NORD CERT GmbH
Am TÜV 1
30519 Hannover

IECEx Certification Body

Electrical data

Supply and signal circuit …… (Terminals KI1[+], KI2[-] in the housing for the electronics resp., in the execution with the 2 cell 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 the execution VEGACAL CL6*.CI***X3/4/5/9*** a value of $C_i'_{\text{wire/wire}}$ = 58pF/m und $C_i'_{\text{wire/shield}}$ = 270pF/m has to be taken into account. In the execution VEGACAL CL6*.CI***X3/4/5/9*** a value of L_i' = 55µH/m has to be taken into account.

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Special conditions for safe use:

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.CI***X**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For zone 0 applications, at the metallic parts of the capacitive measuring probes type VEGACAL CL6*.CI***X**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For zone 0 resp. zone 0/1 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type VEGACAL CL65.CI***X**** and type VEGACAL CL66.CI***X**** have to be secured effectively against these dangers. Observe manual of the manufacturer.

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 05.0002X** Issue No.: **0**

Status: **Current**

Date of Issue: **2005-02-23** Page **1** of **4**

Applicant: **VEGA Grieshaber KG**
Am Hohenstein 113
77761 Schiltach
Germany

Electrical Apparatus: **Capacitive measuring probe VEGACAL CL6*.CI**X****
Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: **Ex ia IIC T6**

Approved for issue on behalf of the IECEx Certification Body: Herbert Stürwold

Position: Head of IECExCB

Signature:
(for printed version)

Date:

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 & Co. KG
Am TUV1
D-30519 Hannover
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0002X**

Date of Issue: **2005-02-23** Issue No.: **0**

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

Manufacturing location(s):

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 manufacture'rs 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 : 2000 Edition: 3.1	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-11 : 1999 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'

*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

IECEx ATR: **DE / TUN / 05 / 551794**

File Reference: **05 YEX 551794**

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0002X**

Date of Issue: **2005-02-23** Issue No.: **0**

Schedule

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

The capacitive measuring probes type VEGACAL CL6*.CI**X** are used for monitoring or control of filling levels in explosion hazardous areas.

The measuring media are allowed to be combustible liquids, gases, mists or vapours.

Mechanical execution of the capacitive measuring probes:

type	electrodes
CL62.CI**X**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.CI**X**	fully insulated electrode, optionally plated
CL64.CI**X**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL65.CI**X**	partly insulated cable electrode optionally with additionally insulated cable
CL66.CI**X**	fully insulated cable electrode

CONDITIONS OF CERTIFICATION: YES as shown below:

At the plastic parts of the capacitive measuring probe type VEGACAL CL6*.CI**X** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.

IECEx Certificate of Conformity

Certificate No.: **IECEx TUN 05.0002X**

Date of Issue: **2005-02-23** Issue No.: **0**

EQUIPMENT(continued):

The permissible temperature range in the area of the electronics/of the medium dependent on the temperature class has to be taken from the following table:

temperature class	ambient temperature range	medium temperature range for electrodes with PE/PA-insulation	medium temperature range for other electrodes
T6	- 40°C... + 64°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 79°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 80°C	- 40°C... + 80°C	-50°C ... +150 °C

* with temperature adapter for medium temperatures > 150°C ... 200°C

If the sensors of the capacitive measuring probes are operated at higher medium temperatures as listed in the a.m. table, measures have to be taken, that the danger of ignition caused by these hot surfaces is excluded. The max. permissible temperature on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Electrical data

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

A length of the triax cable resp. coax cable between the housing for the electronics and the terminal housing of 10 m is permissible.

The intrinsically safe supply and signal circuit is safe galvanically separated from the parts which can be earthed.

Annexe:

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
COMMISSION ELECTROTECHNIQUE INTERNATIONALE (CEI)

Ref. No.
DE/TUN/05/551794

IEC SCHEME FOR CERTIFICATION TO STANDARDS FOR ELECTRICAL EQUIPMENT FOR EXPLOSIVE ATMOSPHERES (IECEx Scheme)

SYSTEME CEI POUR CERTIFICATION SELON LES NORMES RELATIVES AUX APPAREILS ELECTRIQUES DESTINES A ETRE UTILISES EN ATMOSPHERES EXPLOSIBLES (SYSTEME CEIEx)

IECEx TEST REPORT
RAPPORT CEIEx D'ESSAIS

Product *Produit*	Capacitive measuring probe
Name and address of the applicant *Nom et adresse du demandeur*	VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach
Name and address of the manufacturer *Nom et adresse du fabricant*	VEGA Grieshaber KG Am Hohenstein 113 77761 Schiltach
Rating and principal characteristics *Valeurs nominales et caractéristiques principales*	Rating: See ExTR Principal characteristics: intrinsically safe apparatus Ex ia IIC T6
Trade mark (if any) *Marque de fabrique (si elle existe)*	--
Model/type Ref. Ref. de type	VEGACAL CL6*.CI**X**
Additional information (if necessary) *Information complémentaire (si nécessaire)*	
A sample of the product was tested and found to be in conformity with *Un échantillon de ce produit a été essayé et a été considéré conforme à la*	**PUBLICATION** / **EDITION** IEC 60079-0 / 3.1 IEC 60079-11 / 4
as shown in the Test Report, Ref. No. *comme indiqué dans le Rapport d'essais, numéro de référence*	DE/TUN/04/551794

The ExTR is issued by the following Certification Body
Le Rapport ExTR Ex est émis par l'organisme de certification suivante

TÜV NORD CERT GmbH & Co. KG
Am TÜV 1
D-30519 Hannover

24.02.2005
Date

Signature