

Translation

(1) **EU-Type Examination Certificate**

TÜV NORD

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**



(3) **Certificate Number** TÜV 05 ATEX 2799 X **issue:** 00

(4) for the product: Capacitive continuous level measurement sensors type VEGACAL CL6*. DX/DM ***H/P/F****

(5) of the manufacturer: VEGA Grieshaber KG

(6) Address: Am Hohenstein 113, 77761 Schiltach

Order number: 8000474578

Date of issue: 2017-07-31

- (7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

- (8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential ATEX Assessment Report No. 17 203 204726.

- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-11:2012
EN 60079-26:2015

except in respect of those requirements listed at item 18 of the schedule.

- (10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

- (11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

- (12) The marking of the product shall include the following:



II 1/2 G Ex ia/db ia IIC T6 ... T1 Ga/Gb
II 2 G Ex db ia IIC T6 ... T1 Gb

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

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(13) SCHEDULE

(14) EU-Type Examination Certificate No. TÜV 05 ATEX 2799 X issue 00

(15) Description of product

The capacitive continuous level measurement sensors type VEGACAL CL6*. DX/DM ***H/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*. DX/DM ***H/P/F**** consist of an electronic housing for the barriers with an Ex-d connection room, an Ex-i connection room with inserted measuring electronics, 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*. DX/DM ***H****

Supply and signal circuit
(Terminals 1[+], 2[-]
in the Ex-d connection room)

with barrier P3-2LH:

$U = 14 \dots 36 \text{ V d. c.}$

$U_m = 253 \text{ V a. c.}$

with barrier P2-2LH:

$U = 20 \dots 36 \text{ V d. c.}$

$U_m = 253 \text{ V a. c.}$

Operation and indication circuit
(Terminals 5, 6, 7, 8 or plug connection in
the "i" connection room)

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:

$C_o = 2.4 \text{ } \mu\text{F}$

$L_o = 160 \text{ } \mu\text{H}$

Operation
and indication module circuit
(Spring contacts in the housing for the
electronics)

in type of protection „Intrinsic Safety“ Ex ia IIC
only for connection to the VEGA operation and
indication module (PLICSCOM)

Communication circuit
(I²C bus in the "i" connection room))

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

Schedule to EU-Type Examination Certificate No. TÜV 05 ATEX 2799 X issue 00

If

- the VEGA interface converter type VEGACONNECT and
 - the external VEGA indication unit type VEGADIS61
- are connected, the following maximum values of the connection cable to the VEGADIS61/81 do result:

$$\begin{aligned} C_o &= 2.8 \text{ } \mu\text{F} \\ L_o &= 100 \text{ } \mu\text{H} \end{aligned}$$

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

All intrinsically safe circuits of the capacitive continuous level measurement sensors with built-in barrier P3-2LH are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P2-2LH are galvanically connected with the earth potential (measuring circuit excluded).

Type VEGACAL CL6*. DX/DM ***P/F****

Electrical data

Supply and signal circuit
(Terminals K11/1, K11/2;
"Ex d"-connection room)

with barrier P3-2LPAFF:
 $U = 14 \dots 32 \text{ V d. c.}$
 $U_m = 253 \text{ V a. c.}$

with barrier KLEMP2-2LPAFFD:
 $U = 16 \dots 32 \text{ V d. c.}$
 $U_m = 253 \text{ V a. c.}$

Operation and indication circuit
(Terminals 5, 6, 7, 8 in the "Ex i"-
connection room)

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:
 $C_o = 2.4 \text{ } \mu\text{F}$
 $L_o = 160 \text{ } \mu\text{H}$

Operation and indication module
circuit
(Spring contacts in the "Ex i"-
connection room)

in type of protection „Intrinsic Safety" Ex ia IIC
only for connection to the VEGA operation and indication
module (PLICSCOM)

Communication circuit
(I²C bus in the "Ex i"-connection
room)

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

Schedule to EU-Type Examination Certificate No. TÜV 05 ATEX 2799 X issue 00

If

- the VEGA interface converter type VEGACONNECT and
 - the external VEGA indication unit type VEGADIS61
- are connected, the following maximum values of the connection cable to the VEGADIS61/81 do result:

$$C_o = 2.8 \mu F$$

$$L_o = 100 \mu H$$

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

All intrinsically safe circuits of the capacitive continuous level measurement sensors with built-in barrier P3-2LPAFF are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMP2-2LPAFFD are galvanically connected with the earth potential (measuring circuit excluded).

Thermal data

Type VEGACAL CL6*. DX/DM ***H****

If the capacitive continuous level measurement sensors are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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 ...+60 °C	
T4		
T3		
T2		
T1		

The electrodes of the capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 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.

Schedule to EU-Type Examination Certificate No. TÜV 05 ATEX 2799 X issue 00

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of the category 2 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			-50 °C ... +100 °C	-50 °C ... +100 °C
T4			-50 °C ... +135 °C	-50 °C ... +135 °C
T3			-50 °C ... +135 °C	-50 °C ... +135 °C
T2			-50 °C ... +150 °C	-50 °C ... +200 °C
T1			-50 °C ... +150 °C	-50 °C ... +200 °C

If the 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.

Type VEGACAL CL6*. DX/DM *P/F******

If the capacitive continuous level measurement sensors are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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 ...+60 °C	
T3		
T2		
T1		

The electrodes of capacitive continuous level measurement sensors are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 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.

Schedule to EU-Type Examination Certificate No. TÜV 05 ATEX 2799 X issue 00

If the capacitive continuous level measurement sensors are mounted in explosion hazardous areas which require apparatus of the category 2 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 ... +38 °C	-40 °C ... +80 °C	-50 °C ... +85 °C	-50 °C ... +85 °C
T5	-40 °C ... +53 °C		-50 °C ... +100 °C	-50 °C ... +100 °C
T4	-40 °C ... +60 °C		-50 °C ... +135 °C	-50 °C ... +135 °C
T3			-50 °C ... +150 °C	-50 °C ... +200 °C
T2				
T1				

If the 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.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 17 203 204726

(17) Specific Conditions for 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 0/1 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 0/1 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.
5. The flameproof terminal box (Ex-d connection room) of this equipment must be provided with cable entries and filler plugs resp. conduits which are certified according to IEC 60079-0 and IEC 60079-1.
6. The PA terminal of the capacitive continuous level measurement sensors with the barriers P2-2LH and KLEMP2-2LPAFFD (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area.

Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe operation and indication circuit.

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -

Translation

4. SUPPLEMENT

to Certificate No.

TÜV 05 ATEX 2799 X

Equipment:

Capacitive measuring probe
type VEGACAL CL6*.D****H****

Manufacturer:

VEGA Grieshaber KG

Address:

Am Hohenstein 113
77761 Schiltach

Order number:

8000393985

Date of issue:

2011-07-20

In the future, the capacitive measuring probes type VEGACAL CL6*.D****HD*** are also allowed to be manufactured according to the documents listed in the test report.

The changes refer to

- the mechanical execution (material of the insulating bushing, execution of the sealing between cable insulation and the tightening weight),
- the construction of the capacitive measuring probes (Ex-d connection housing according to EC-Type Examination Certificate TÜV 09 ATEX 555501 U, 1st and 2nd supplement with new Ex-d-bushing and galvanically separating barrier P3-2LH) and
- the type designation.

In the future, this reads VEGACAL CL6*.D****H****.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009

EN 60079-1:2007

EN 60079-11:2007

EN 60079-26:2007

All other details remain unchanged.

(16) The test documents are listed in the test report No. 11 203 080449.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.D****H**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.D****H**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D****H**** und type VEGACAL CL66.D****H**** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 60079-1, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Non-used openings shall be sealed according to EN 60079-1, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

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The head of the certification body



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Translation

3. SUPPLEMENT

to Certificate No.	TÜV 05 ATEX 2767 X
Equipment:	Capacitive measuring probe type VEGACAL CL6*.D****H****
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 77761 Schiltach
Order number:	8000555745
Date of issue:	2010-04-20

In the future, the capacitive measuring probes type VEGACAL CL6*.D****H**** are also allowed to be manufactured according to the documents listed in the test report.

The changes refer to

- the mechanical execution (new temperature adapter, new execution of the cable electrode),
- the construction of the capacitive measuring probes (Ex-d connection housing according to EC Type examination certificate TÜV 09 ATEX 555501 U exclusively with the galvanically separating barrier P3-2LH; intrinsically safe part according to EC Type examination certificate TÜV 05 ATEX 552767 X, 3rd supplement),
- the tables for the temperature ranges
- the electrical data,
- the "Special conditions for safe use" and
- the marking.

This reads as follows:

II 1/2 G or II 2 G Ex d ia IIC Tx Ga/Gb or Gb (Tx: See tables below).

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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 ... +54 °C	-20°C ... +60 °C
T5, T4, T3, T2, T1	-40°C ... +60 °C	-20°C ... +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 on the electronics/housing must not exceed the values as mentioned in the a.m. table.

3. Supplement to Certificate No. TÜV 05 ATEX 2799 X

If the capacitive measuring probes are mounted in explosion hazardous areas which require apparatus of the category 2 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... + 54°C	- 40°C... + 80°C	-50°C ... +85 °C
T5	- 40°C... + 60°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 60°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 60°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

With Barrier P3-2LH in the Ex-d-connection room

Supply and signal circuit U = 14 ... 36 V d. c.
 (Terminals 1[+], 2[-] U_m = 253 V a. c.
 in the Ex-d connection room)

Operation and indication circuit in type of protection „Intrinsic Safety“ Ex ia IIC
 (Terminals 5, 6, 7, 8 or plug connection in the "i" connection room)

only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 (PTB 02 ATEX 2136 X)

The interconnection of the both intrinsically safe circuits was taken into account.

maximum values of the connection cable:

C₀ = 2,4 µF

L₀ = 160 µH

3. Supplement to Certificate No. TÜV 05 ATEX 2799 X

Communication circuit	in type of protection „Intrinsic Safety“	Ex ia IIC
(I ² C bus in the "i" connection room))	only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT (PTB 01 ATEX 2007 or PTB 07 ATEX 2013 X)	

If

- the VEGA interface converter type VEGACONNECT and

- the external VEGA indication unit type VEGADIS61

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

$$C_o = 2,8 \mu F$$

$$L_o = 100 \mu H$$

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

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.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P3-2LH are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009

EN 60079-1:2004

EN 60079-11:2007

EN 60079-26:2007

All other details remain unchanged.

(16) The test documents are listed in the test report No. 10 203 555745.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.D****HD*** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.D****HD*** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D****HD*** und type VEGACAL CL66.D****HD*** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 60079-1, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Non-used openings shall be sealed according to EN 60079-1, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

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The head of the certification body



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Translation

2. SUPPLEMENT

to Certificate No.	TÜV 05 ATEX 2799 X
Equipment:	Capacitive measuring probes type VEGACAL CL6*.D****HD***
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 D-77761 Schiltach
Order number:	8000554576
Date of issue:	2008-07-04

In the future, the capacitive measuring probes type VEGACAL CL6*.D_**HD** are also allowed to be manufactured according to the documents listed in the test report.

The changes refer to the type designation, the mechanical and electrical construction and the marking.

Mechanical execution of the measuring probes

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

Electrical data

Operation and indication circuit (Terminals 5, 6, 7, 8 resp. plug connection in the "i"-connection room)	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 (PTB 02 ATEX 2136 X) The interconnection of the both intrinsically safe circuits was taken into account. maximum values of the connection cable: $C_o = 2.4 \mu F$ $L_o = 160 \mu H$
Operation and indication module circuit ... (Spring contacts in the "i"-connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom)

2. Supplement to Certificate No. TÜV 05 ATEX 2799 X

Communication circuit (I ² C 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 (PTB 01 ATEX 2007 or PTB 07 ATEX 2013 X)
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If

- the VEGA interface converter type VEGACONNECT and

- the external VEGA indication unit type VEGADIS61

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

$$C_o = 2.8 \mu F$$

$$L_o = 100 \mu H$$

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

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMMP2-2LHD are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P2-2LH are galvanically connected with the earth potential (measuring circuit excluded).

All other details apply unchanged for this supplement.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2006

EN 60079-1:2004

EN 60079-11:2007

EN 60079-26:2004

(16) The test documents are listed in the test report No. 08 203 554576.

2. Supplement to Certificate No. TÜV 05 ATEX 2799 X

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.D****HD*** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.D****HD*** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D****HD*** and type VEGACAL CL66.D****HD*** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The PA terminal of the capacitive measuring probes with the barrier P2-2LH (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe operation and indication circuit.
6. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 60079-1, sections 13.1 and 13.2, and for which a separate test certificate is available.
7. Cable entries as well as sealing plugs of simple construction shall not be used. For connection of the flameproof terminal housing by means of an approved conduit entry the associated sealing facility must be arranged directly on the enclosure.
8. Non-used openings shall be sealed according to EN 60079-1, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

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Translation

1. SUPPLEMENT

to Certificate No.

TÜV 05 ATEX 2799 X

Equipment:

Capacitive measuring probe type VEGACAL CL6*.D_**HD**

Manufacturer:

VEGA Grieshaber KG

Address:

Am Hohenstein 113
D-77761 Schiltach

Order number:

8000553042

Date of issue:

2006-07-03

In the future, the capacitive measuring probes type VEGACAL CL6*.C_**H** are allowed to be manufactured according to the documents listed in the test report.

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

Mechanical execution of the measuring probes

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

Electrical data

Operation and indication circuit
(Terminals 5, 6, 7, 8 or plug connection in the "i"-connection room)

in type of protection „Intrinsic Safety“

EEx ia IIC

only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 (PTB 02 ATEX 2136 X)

The interconnection of the both intrinsically safe circuits was taken into account.

maximum values of the connection cable:

$C_0 = 2,4 \mu F$

$L_0 = 160 \mu H$

Communication circuit
(I²C bus in the "i"-connection room))

in type of protection „Intrinsic Safety“

EEx ia IIC

only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT 3 (PTB 01 ATEX 2007)

If

1. Supplement to Certificate No. TÜV 05 ATEX 2799 X

- the VEGA interface converter type VEGACONNECT 3 and
 - the external VEGA indication unit type VEGADIS61
- are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

$$C_o = 2,8 \mu F$$

$$L_o = 100 \mu H$$

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

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMMP2-2LHD are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P2-2LH are galvanically connected with the earth potential (measuring circuit excluded).

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

The equipment incl. of this supplement meets the requirements of these standards:

EN 50 014:1997+A1+A2 EN 50 018:2000+A1 EN 50 020:2002 EN 50 284:1999

(16) The test documents are listed in the test report No. 06 YEX 553040.

(17) Special conditions for safe use

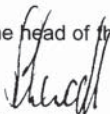
no changes

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt

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Translation

(1) **EC-Type Examination Certificate**

TÜV NORD

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres
- Directive 94/9/EC



- (3) EC-Type Examination Certificate Number

TÜV 05 ATEX 2799 X

- (4) Equipment: **Capacitive measuring probe type VEGACAL CL6*.D_**HD****
(5) Manufacturer: **VEGA Grieshaber KG**
(6) Address: **Am Hohenstein 113
D-77761 Schiltach**

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
(8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 05 YEX 552075

- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50 014:1997 + A1 + A2 EN 50 018:2000 + A1 EN 50 020:2002 EN 50 284:1999
(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
(12) The marking of the equipment or protective system must include the following:



II 1/2 G or II 2 G EEx d ia IIC T6

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30519 Hannover
Tel.: +49 511 986-1470
Fax: +49 511 986-1590

Hanover, 2005-04-20

Head of the
Certification Body

(13)

SCHEDULE

(14) **EC-Type Examination Certificate N° TÜV 05 ATEX 2799 X**

(15) Description of equipment

The capacitive measuring probes type VEGACAL CL6*.D_**HD** 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 measuring probes type VEGACAL CL6*.D_**HD* consist of an electronic housing for the barriers with an Ex-d connection room, an Ex-i connection room with inserted measuring electronics, a process adapting element and a measuring sensor.

Mechanical execution of the capacitive measuring probes:

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

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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 ... +57 °C	-20°C ... +60 °C
T5, T4, T3, T2, T1	-40°C ... +68 °C	-20°C ... +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 on the electronics/housing must not exceed the values as mentioned in the a.m. table.

Schedule EC-Type Examination Certificate N° TÜV 05 ATEX 2799 X

If the capacitive measuring probes are mounted in explosion hazardous areas which require apparatus of the category 2 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... + 68°C	- 40°C... + 80°C	-50°C ... +100 °C
T4	- 40°C... + 68°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 68°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 K11/1, K11/2;
"d"-connection room)

U = 12 ... 36 V
U_m = 253 V a. c.

PA terminal of the
capacitive measuring probe
with barrier P2-2LH
(Screw terminal)

Connection to the potential equalisation in the explosion
hazardous area

Operation and indication circuit
(Terminals 5, 6, 7, 8 resp. plug
connection in the "i"-
connection room)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for connection to the intrinsically safe circuit of the
belonging external VEGA indication unit type VEGADIS61
(PTB 02 ATEX 2136 X)
The interconnection of the both intrinsically safe circuits was
taken into account.
maximum values of the connection cable:
C₀ = 2,4 µF
L₀ = 160 µH

Operation and indication
module circuit
(Spring contacts in the "i"-
connection room)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for connection to the VEGA operation and indication
module (Plicscom)

Schedule EC-Type Examination Certificate N° TÜV 05 ATEX 2799 X

Communication circuit (I ² C bus in the "i"-connection room)	in type of protection „Intrinsic Safety“ EEx ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT3 (PTB 01 ATEX 2007)
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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.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMP2-2LHD are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P2-2LH are galvanically connected with the earth potential (measuring circuit excluded).

(16) The Test documents are listed in the test report N° 05 YEX 552075.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.C_**HD** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.C_**HD** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D_**HD** and type VEGACAL CL66.D_**HD** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The PA terminal of the capacitive measuring probes with the barrier P2-2LH (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe operation and indication circuit.

Schedule EC-Type Examination Certificate N° TÜV 05 ATEX 2799 X

6. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 50 018, sections 13.1 and 13.2, and for which a separate test certificate is available.
7. Cable entries as well as sealing plugs of simple construction shall not be used. For connection of the flameproof terminal housing by means of an approved conduit entry the associated sealing facility must be arranged directly on the enclosure.
8. Non-used openings shall be sealed according to EN 50 018, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

Translation

4. SUPPLEMENT

to Certificate No. TÜV 05 ATEX 2827 X

Equipment: Capacitive Measuring Probe
VEGACAL CL6*(*)..D****P/F****(*)(*)

Manufacturer: VEGA Grieshaber KG

Address: Am Hohenstein 113
77761 Schiltach
Germany

Order number: 8000434381

Date of issue: 2014-07-23

In the future, the capacitive measuring probe VEGACAL CL6*(*)..D****P/F**** may be manufactured to documents listed above with following changes:

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/markings

Due to changes listed above the technical data change as follow:

The new marking of the capacitive measuring probe type VEGACAL CL6*(*)..D****P/F****(*)(*)

Category 1/2G instruments:

VEGACAL CL6*(*)..D****H****(*)(*)

Temperature class	Permissible ambient temperature on the electronics	Permissible ambient temperature on the sensor
T6	-40°C ... +57°C	-20°C ... +60°C
T5 ... T1	-40°C ... +60°C	-20°C ... +60°C

VEGACAL CL6*(*)..D****P/F****(*)(*)

Temperature class	Permissible ambient temperature on the electronics	Permissible ambient temperature on the sensor
T6	-40°C ... +38°C	-20°C ... +60°C
T5	-40°C ... +53°C	-20°C ... +60°C
T4 ... T1	-40°C ... +60°C	-20°C ... +60°C

4. Supplement to Certificate No. TÜV 05 ATEX 2827 X

Category 2G instruments:

VEGACAL CL6(*)D**H****(*)(*)**

Temperature class	Permissible ambient temperature on the electronics	Permissible ambient temperature on the sensor with PE/PA insulation	Permissible ambient temperature on the other sensors without temperature adapter	Permissible ambient temperature on the other sensors with temperature adapter
T6	-40°C ... +57°C	-40°C ... +80°C	-50°C ... +85°C	-50°C ... +85°C
T5	-40°C ... +60°C	-40°C ... +80°C	-50°C ... +100°C	-50°C ... +100°C
T4	-40°C ... +60°C	-40°C ... +80°C	-50°C ... +135°C	-50°C ... +135°C
T3, T2, T1	-40°C ... +60°C	-40°C ... +80°C	-50°C ... +150°C	-50°C ... +200°C

VEGACAL CL6(*)D**P/F****(*)(*)**

Temperature class	Permissible ambient temperature on the electronics	Permissible ambient temperature on the sensor with PE/PA insulation	Permissible ambient temperature on the other sensors without temperature adapter	Permissible 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 ... +60°C	-40°C ... +80°C	-50°C ... +135°C	-50°C ... +135°C
T3, T2, T1	-40°C ... +60°C	-40°C ... +80°C	-50°C ... +150°C	-50°C ... +200°C

All other data remain unchanged.

The equipment incl. of this supplement meets the requirements of these standards:

EN 60079-0:2012

EN 60079-1:2007

EN60079-11:2012

EN60079-26:2007

The marking of the equipment is:



II 1/2 G resp. II 2 G Ex d ia IIC T6...T1 Ga/Gb resp. Gb

(16) The test documents are listed in the test report No. 14 203 141328.

(17) Special conditions for safe use

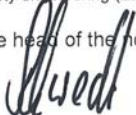
no additional ones

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Schwedt

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Translation

3. SUPPLEMENT

to Certificate No.	TÜV 05 ATEX 2827 X
Equipment:	Capacitive measuring probe type VEGACAL CL6*.D****P/F****
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 77761 Schiltach
Order number:	8000393981
Date of issue:	2011-07-19

In the future, the capacitive measuring probes type VEGACAL CL6*.D****P/FD*** are also allowed to be manufactured according to the documents listed in the test report.

The changes refer to

- the mechanical execution (material of the insulating bushing, execution of the sealing between cable insulation and the gravity weight, temperature adapter for medium temperatures >150 °C),
- the construction of the capacitive measuring probes (Ex-d connection housing according to EC Type examination certificate TÜV 09 ATEX 555501 U, 1st and 2nd supplement, with new Ex-d-bushing and galvanically separating barrier P3-2LPAFF; see also "Electrical data" and "Special conditions for safe use"),
- the ambient temperature ranges (see tables listed below),
- the execution of the built-in PLICSCOM module according to 3rd supplement to EC-Type Examination Certificate 05 ATEX 2808 X,
- the marking with II 1/2 G oder II 2 G Ex d ia IIC T6 ... T1 Ga/Gb oder Gb and
- the type designation.

In the future, this reads VEGACAL CL6*.D****P/F****.

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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, T4, T3, T2, T1	-40 °C ... +60 °C	-20 °C ... +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 on the electronics/housing must not exceed the values as mentioned in the a.m. table.

3. Supplement to Certificate No. TÜV 05 ATEX 2827 X

If the capacitive measuring probes are mounted in explosion hazardous areas which require apparatus of the category 2 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... +60 °C	-40 °C... +80 °C	-50 °C ... +100 °C
T4	-40 °C... +60 °C	-40 °C... +80 °C	-50 °C ... +135 °C
T3*, T2*, T1*	-40 °C... +60 °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 KI1/1, KI1/2; "Ex d"-connection room)	U = 14 ... 32V d. c. U _m = 253 V a. c.
Operation and indication circuit (Terminals 5, 6, 7, 8 in the "Ex i"- connection room)	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 (PTB 02 ATEX 2136 X) The interconnection of the both intrinsically safe circuits was taken into account. maximum values of the connection cable: C ₀ = 2.4 µF L ₀ = 160 µH
Operation and indication module circuit (Spring contacts in the "Ex i"- connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom)
Communication circuit (I ² C bus in the "Ex i"-connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT3 (PTB 01 ATEX 2007 or PTB 07 ATEX 2013 X)

If

- the VEGA interface converter type VEGACONNECT and
 - the external VEGA indication unit type VEGADIS61
- are connected, the following maximum values of the connection cable to the VEGADIS61 do result:

$$C_0 = 2.8 \mu F$$

$$L_0 = 100 \mu H$$

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

3. Supplement to Certificate No. TÜV 05 ATEX 2827 X

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier P3-2LPAFF are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009
EN 60079-26:2007

EN 60079-1:2007

EN 60079-11:2007

(16) The test documents are listed in the test report No. 11 203 080448.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.D****P/F**** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.D****P/F**** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D****P/F*** und type VEGACAL CL66.D****P/F**** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 60079-1, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Non-used openings shall be sealed according to EN 60079-1, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt

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Translation

2. SUPPLEMENT

to Certificate No.	TÜV 05 ATEX 2827 X
Equipment:	Capacitive measuring probes type VEGACAL CL6*.D****P/FD***
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 D-77761 Schiltach
Order number:	8000554577
Date of issue:	2008-07-15

In the future, the capacitive measuring probes type VEGACAL CL6*.D_**P/FD** are also allowed to be manufactured according to the documents listed in the test report.
The changes refer to the type designation, the mechanical and electrical construction and the marking.

Mechanical execution of the measuring probes

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

Electrical data

Supply and signal circuit (Terminals KI1/1, KI1/2; "d"-connection room)	U = 16 ... 32 V d. c. U _m = 253 V a. c.
Operation and indication circuit (Terminals 5, 6, 7, 8 resp. plug connection in the "i"-connection room)	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 (PTB 02 ATEX 2136 X) The interconnection of the both intrinsically safe circuits was taken into account. maximum values of the connection cable: C ₀ = 2.4 µF L ₀ = 160 µH
Operation and indication module circuit ... (Spring contacts in the "i"-connection room)	in type of protection „Intrinsic Safety“ Ex ia IIC only for connection to the VEGA operation and indication module (Plicscom)

2. Supplement to Certificate No. TÜV 05 ATEX 2827 X

Communication circuit in type of protection „Intrinsic Safety“ Ex ia IIC
(I²C bus in the in the "i"-connection room) only for connection to the intrinsically safe signal circuit of
the VEGA interface converter type VEGACONNECT
(PTB 01 ATEX 2007 or PTB 07 ATEX 2013 X)

If

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

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

$$C_o = 2.8 \mu F$$

$$L_o = 100 \mu H$$

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

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMP2-2LPA/FFD are galvanically connected with the earth potential (measuring circuit excluded).

All other details apply unchanged for this supplement.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2006
EN 60079-26:2004

EN 60079-1:2004

EN 60079-11:2007

(16) The test documents are listed in the test report No. 08 203 554577.

(17) Special conditions for safe use

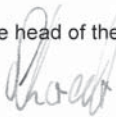
1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.D****P/FD*** there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.D**** P/FD *** made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D****P/FD*** and type VEGACAL CL66.D****P/FD*** have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 60079-1, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Cable entries as well as sealing plugs of simple construction shall not be used. For connection of the flameproof terminal housing by means of an approved conduit entry the associated sealing facility must be arranged directly on the enclosure.
7. Non-used openings shall be sealed according to EN 60079-1, section 11.9.
8. The PA terminal of the capacitive measuring probes with the barrier KLEMP2-2LPA/FFD (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe operation and indication circuit.

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body



Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

Translation

1. SUPPLEMENT

to Certificate No.	TÜV 05 ATEX 2827 X
Equipment:	Capacitive measuring probe type VEGACAL CL6*.D_**P/FD**
Manufacturer:	VEGA Grieshaber KG
Address:	Am Hohenstein 113 D-77761 Schiltach
Order number:	8000553281
Date of issue:	2006-12-05

In the future, the capacitive measuring probes type VEGACAL CL6*.C_**P/F** are allowed to be manufactured according to the documents listed in the test report.
The changes refer to the mounting of the barrier type KLEMP2-2LPA/FFD according to the 4. supplement to EC-Type Examination Certificate PTB 02 ATEX 1127U, the mechanical and electrical construction of the measuring probes as well as to the electrical data for the intrinsically safe circuits and the "Special conditions for safe use".

Mechanical execution of the capacitive measuring probes:

Type	Electrodes
CL62.D_**P/FD**	partly insulated electrode, optionally with screening tube or concentric tube
CL63.D_**P/FD**	fully insulated electrode, optionally plated
CL62.D_**P/FD**	fully insulated electrode, optionally with screening tube, concentric tube or plated
CL63.D_**P/FD**	partly insulated cable electrode optionally with additionally insulated cable
CL62.D_**P/FD**	fully insulated cable electrode
CL63.D_**P/FD**	fully insulated 2-rod electrode

Electrical data

Supply and signal circuit	U = 16 ... 32 V d. c.
(Terminals KI1/1, KI1/2; "d"-connection room)	U _m = 253 V a. c.

Operation and indication circuit in type of protection „Intrinsic Safety“ EEx ia IIC

(Terminals 5, 6, 7, 8 or plug connection in the "i"-connection room)

only for connection to the intrinsically safe circuit of the belonging external VEGA indication unit type VEGADIS61 (PTB 02 ATEX 2136 X)

The interconnection of the both intrinsically safe circuits was taken into account.

maximum values of the connection cable:

$$C_o = 2,4 \mu F$$

$$L_o = 160 \mu H$$

Operation and indication module circuit (Spring contacts in the "I"-connection room)	in type of protection „Intrinsic Safety“ only for connection to the VEGA operation and indication module (Plicscom)	EEx ia IIC
Communication circuit (I ² C bus in the "I"-connection room)	in type of protection „Intrinsic Safety“ only for connection to the intrinsically safe signal circuit of the VEGA interface converter type VEGACONNECT 3 (PTB 01 ATEX 2007)	EEx ia IIC

If

- the VEGA interface converter type VEGACONNECT 3 and
- the external VEGA indication unit type VEGADIS61

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

$$C_o = 2,8 \mu F$$

$$L_o = 100 \mu H$$

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

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMP2-2LPA/FFD are galvanically connected with the earth potential (measuring circuit excluded).

The "Special conditions for safe use" are supplemented accordingly.

All other details apply unchanged.

The equipment incl. of this supplement meets the requirements of these standards:

EN 50 014:1997+A1+A2 EN 50 018:2000+A1 EN 50 020:2002 EN 50 284:1999

(16) The test documents are listed in the test report No. 06 YEX 553281.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.C_**P/FD* there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.C_**P/FD* made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D_**P/FD* and type VEGACAL CL66.D_**P/FD* have to be secured effectively against these dangers.
4. For category 1/2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 50 018, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Cable entries as well as sealing plugs of simple construction shall not be used. For connection of the flameproof terminal housing by means of an approved conduit entry the associated sealing facility must be arranged directly on the enclosure.
7. Non-used openings shall be sealed according to EN 50 018, section 11.9.
8. The PA terminal of the capacitive measuring probes with the barrier KLEMP2-2LPA/FFD (internal or external screw terminal) has to be connected with the potential equalization of the explosion hazardous area. Since the intrinsically safe circuits are galvanically connected with the earth potential, potential compensation has to exist in the complete course of the erection of the intrinsically safe operation and indication circuit.

(18) Essential Health and Safety Requirements

no additional ones

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The head of the certification body



Schwedt

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Translation

(1) **EC-Type Examination Certificate**

TÜV NORD

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres
- **Directive 94/9/EC**



- (3) EC-Type Examination Certificate Number

TÜV 05 ATEX 2827 X

- (4) Equipment: **Capacitive measuring probe type VEGACAL CL6*.D_**P/FD***
(5) Manufacturer: **VEGA Grieshaber KG**
(6) Address: **Am Hohenstein 113
D-77761 Schiltach**

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
(8) The TÜV NORD CERT GmbH & Co. KG, TÜV CERT-Certification Body, notified body number N° 0032 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report N° 05 YEX 552076

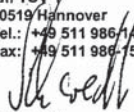
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50 014:1997 + A1 + A2 EN 50 018:2000 + A1 EN 50 020:2002 EN 50 284:1999
(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
(12) The marking of the equipment or protective system must include the following:

 **II 1/2 G or II 2 G EEx d ia IIC T6**

TÜV NORD CERT GmbH & Co. KG

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30519 Hannover
Tel.: +49 511 986-1470
Fax: +49 511 986-1590

Hanover, 2005-06-08


Head of the
Certification Body

(13)

SCHEDULE

(14) **EC-Type Examination Certificate N° TÜV 05 ATEX 2827 X**

(15) Description of equipment

The capacitive measuring probes type VEGACAL CL6*.D_**P/FD* 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 measuring probes type VEGACAL CL6*.D_**P/FD* consist of an electronic housing for the barrier with an Ex-d connection room, an Ex-i connection room with inserted measuring electronics, a process adapting element and a measuring sensor.

Mechanical execution of the capacitive measuring probes:

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

If the capacitive measuring probes are mounted in the partition wall between explosion hazardous areas which require apparatus of the category 1 (electrode) and category 2 (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 ... +74 °C	-20°C ... +60 °C

The electrodes of the capacitive measuring probes are allowed to be operated in an explosion hazardous area, that requires apparatus of the category 1, 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 on 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 which require apparatus of the category 2 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... + 74°C	- 40°C... + 80°C	-50°C ... +135 °C
T3*, T2*, T1*	- 40°C... + 74°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 K11/1, K11/2;
"d"-connection room)

U = 9 ... 36 V d. c.
U_m = 253 V a. c.

Operation and indication circuit
(Terminals 5, 6, 7, 8 resp. plug
connection in the "i"-
connection room)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for connection to the intrinsically safe circuit of the
belonging external VEGA indication unit type VEGADIS61
(PTB 02 ATEX 2136 X)
The interconnection of the both intrinsically safe circuits was
taken into account.
maximum values of the connection cable:
C₀ = 2,4 µF
L₀ = 160 µH

Operation and indication
module circuit
(Spring contacts in the "i"-
connection room)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for connection to the VEGA operation and indication
module (Plicscom)

Communication circuit
(I²C bus in the "i"-connection
room)

in type of protection „Intrinsic Safety“ EEx ia IIC
only for connection to the intrinsically safe signal circuit of
the VEGA interface converter type VEGACONNECT3 (PTB
01 ATEX 2007)

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.

All intrinsically safe circuits of the capacitive measuring probes with built-in barrier KLEMP2-2LPAD are safe galvanically separated from the non intrinsically safe supply and signal circuit and the parts which can be earthed.

(16) The Test documents are listed in the test report N° 05 YEX 552076.

(17) Special conditions for safe use

1. At the plastic parts of the capacitive measuring probes type VEGACAL CL6*.C_**P/FD* there is a danger of ignition by electrostatic discharge. Observe manual of the manufacturer and warning label.
2. For category 1/category 2 applications, at the metallic electrode parts of the capacitive measuring probes type VEGACAL CL6*.C_**P/FD* made of light metal there is a danger of ignition by impact or friction. Observe manual of the manufacturer.
3. For category 1/category 2 applications and at risks by pendulum or vibration the respective parts of the capacitive measuring probes type capacitive measuring probes type VEGACAL CL65.D_**P/FD* and type VEGACAL CL66.D_**P/FD* have to be secured effectively against these dangers.
4. For category 1/category 2 applications the medium tangent materials have to be resistant to the media.
5. The flameproof terminal housing shall be connected by means of suitable cable entries resp. conduit systems, which meet the requirements of EN 50 018, sections 13.1 and 13.2, and for which a separate test certificate is available.
6. Cable entries as well as sealing plugs of simple construction shall not be used. For connection of the flameproof terminal housing by means of an approved conduit entry the associated sealing facility must be arranged directly on the enclosure.
7. Non-used openings shall be sealed according to EN 50 018, section 11.9.

(18) Essential Health and Safety Requirements

no additional ones

